

**California Department of Pesticide Regulation  
California Environmental Protection Agency**

**Vision, goals, and strategies for  
transforming how we serve our customers  
through digital government**



**August 2001**





**STATE OF CALIFORNIA**

*Gray Davis, Governor*

**CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY**

*Winston H. Hickox, Secretary for Environmental Protection*

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## Message from the Director

The convenience and immediacy of the Internet has fundamentally altered how people conduct their daily lives, and revolutionized how citizens, businesses, and government interact. The Department of Pesticide Regulation (DPR) must be prepared to take advantage of existing and emerging technologies in order to meet and exceed the rising expectations of the citizens and businesses we serve.

This eGovernment strategic plan defines our vision for the use of electronic services to transform how we do business. The plan establishes a mission to deliver all pesticide program services using cost-effective, useful, and accessible eGovernment technology solutions that support our environmental protection mission. This plan also provides the strategies and initiatives for moving the DPR to an electronically enhanced operation through improved business processes and Internet technologies.

The Governor initiated a major initiative to prepare and move the State forward by reinventing itself to provide service to citizens and business communities through various electronic media. The goal is to develop a state website "portal" ([www.my.ca.gov](http://www.my.ca.gov)) that allows for one-stop access to government information and services. The portal will provide comprehensive search capability covering a full range of customer interests, as well as provide links to subjects based on the topics themselves rather than along departmental lines.

The Governor's vision for eGovernment is centered on citizens and businesses, the owners of government. This "customer-centric" approach recognizes that citizens and business partners will use the Internet to build a relationship with government that is convenient, accessible, secure, and personal.

With Internet-enabled information, services, and business processes, the DPR can truly become customer-centric. Our customers should be able to conduct their relationships with us in a convenient, secure, and increasingly personalized way, 24 hours a day, seven days a week, regardless of where they are or their familiarity with government.

For rural and small businesses, the technology allows the State to provide the same information and process advantages that larger companies receive. For the DPR, eGovernment also allows greater access to environmental data and programs, opens up our business processes, and enables us to adopt a more efficient way of doing business.

Accomplishing our ambitious goals will require participation of our business partners, the right technical skills, a sound enterprise infrastructure, and adequate funding. I look forward to working with you to achieve success in our eGovernment efforts.



Paul E. Helliker  
California Department of Pesticide Regulation

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## Executive Summary

The Internet is fundamentally altering the way people conduct their daily lives and revolutionizing interactions among citizens, businesses, and governments. As our constituents and the regulated community increasingly use electronic technologies to conduct business faster and more efficiently, they expect and demand to conduct business with government in the same manner.

The eGovernment strategic plan presents a visionary strategy for transforming how the Department of Pesticide Regulation (DPR) does business. The plan responds to this challenge by establishing a mission for eGovernment (i.e., eDPR) to deliver all pesticide program services using cost-effective, useful, and accessible eGovernment technology solutions that support our environmental protection mission.

Our vision is a DPR where people have immediate and reliable access to pesticide regulation information and can conveniently conduct their business with the DPR. Our vision requires that we transform our organization and improve our business processes in order to support this new business model.

The DPR must now move decisively to:

- ❑ Meet and exceed rising expectations of constituents and the regulated community
- ❑ Fully support and deliver on the Governor's eGovernment vision
- ❑ Anticipate and act on changes occurring daily in the digital economy.

### A. eDPR Strategic Goals

The strategic goals for eDPR link directly to the Department's overall

strategic goals. The following are the three strategic goals from eDPR:

1. Enable Department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions
2. Deliver immediate access to all Department information about environmental impacts and benefits of pesticide use in California
3. Offer all regulated entities the ability to conduct all of their transactions with the Department electronically, using methods that are secure, convenient, and tailored to their needs

For each goal, we present one or more objectives. Because the eDPR goals and objectives are mutually reinforcing, the eDPR strategies and initiatives may satisfy more than one goal or objective.

The eDPR goals and underlying objectives do not imply that our customers must conduct DPR business online. We have a responsibility of serving all of our customers, including those that may prefer to conduct business with us through traditional channels. However, the Internet is a prominent service channel that the DPR must embrace. The DPR intends to make greater use of Web-based technology to support, supplement, and enhance our relationships with employees, constituents, and the regulated community.

### B. Strategies and Initiatives

The opportunities for expanding the use of eGovernment to provide faster, convenient, and efficient online services to our customers are immense. Our challenge is to make the transition from simple information publishing to a virtual service delivery environment. Therefore, our four initial strategies are to:

- ❑ Improve business processes to simplify and integrate each process, then enable these improved processes with eGovernment solutions and organizational changes
- ❑ Develop and sustain a customer focus to ensure better, more efficient, and friendly online services
- ❑ Build an eGovernment culture that increases customer and DPR staff awareness and capabilities of eGovernment in order to maximize the potential customer service benefits of eGovernment
- ❑ Build a sound technical infrastructure to support our planned Internet presence.

Our eGovernment initiatives were identified and developed during a comprehensive improvement review of the following five DPR business processes:

- ❑ Pesticide registration
- ❑ Licensing and certification
- ❑ Permitting and enforcement
- ❑ Pesticide use reporting
- ❑ Mill assessment.

For each business process, we identify eGovernment initiatives that support an improved business process. The initiatives are designed to begin a transition to electronic service delivery, within the limitations of our budget and workforce skills. These initiatives represent those that management and staff believe to be strategic and feasible.

## **C. Architecture Requirements and Required Capabilities**

The DPR will make fundamental changes to its information technology infrastructure and capabilities in order to deliver our eGovernment strategy. Our plan presents ten requirements that, in

combination, address the following architecture imperatives:

- ❑ Deliver reliable, secure, and accurate information
- ❑ Accelerate change and decision making
- ❑ Simplify complexity and lower costs.

Transforming DPR business processes through our eGovernment initiatives will not be easy. It will require that we develop and maintain a number of people, process, and technology capabilities. These capabilities encompass:

- ❑ A management framework to improve accountability and determine that eGovernment initiatives align with our business processes and strategic objectives
- ❑ New processes required to support an eGovernment environment
- ❑ Numerous technology capabilities to manage, develop, deploy, and support eGovernment solutions.

All of these are achievable with this plan and the continued focus and support of the Governor on implementing eGovernment.

## **D. Organization of the eGovernment Strategic Plan**

This eDPR strategic plan is organized as follows:

1. Introduction
2. Background
3. Mandate for Change and eGovernment Challenges
4. Vision for eDPR
5. Goals and Objectives
6. Strategies and Initiatives
7. Business Drivers and Architecture Requirements
8. Implementation Plan.



# 1. Introduction

## A. Purpose

The purpose of the Department of Pesticide Regulation (DPR) electronic government (eGovernment) strategic plan is to define DPR's vision to transform to a virtual service delivery environment over the next five years (FY 2001/02 through FY 2005/06). The DPR eGovernment strategic plan:

- ❑ Defines DPR's eGovernment mission
- ❑ Describes goals and objectives supporting that mission
- ❑ Presents implementation strategies and initiatives
- ❑ Identifies capabilities required to successfully implement the initiatives.

The plan provides a roadmap so that DPR's leadership can better serve our customers and can ensure the public's trust by improving core business processes and providing employees the tools and information they need to be more effective. The DPR will put enterprise data, applications, and processes at the fingertips of Web-enabled employees, constituents, and business partners. The plan is a dynamic document that the DPR will revise regularly and incorporate into annual planning activities across the Department, such as budgeting activities and agency information management strategy (AIMS) development.

The strategies and initiatives described are not absolute, but rather represent a direction the DPR expects to take. Accomplishing our ambitious vision is entirely dependent on:

- ❑ The continued leadership of the Governor, the State's eGovernment Director, and DPR management

- ❑ Adequate funding
- ❑ A sound enterprise infrastructure that supports information sharing, privacy, and security
- ❑ Participation of our business partners
- ❑ A skilled workforce to develop and maintain what we build.

The environment described above provides the foundation that supports our current capabilities and future initiatives, and are required for us to achieve our goals and objectives.

## B. Scope

The plan provides a baseline for DPR's current eGovernment capabilities, presents our mission and vision for delivering services and information via the Internet, and outlines our goals and objectives for a virtual service delivery environment. The plan organizes prospective initiatives by our five core DPR business processes. The plan recommends a phased implementation strategy and outlines capabilities required to realize DPR's eGovernment goals.

Because implementing eGovernment is a process, not an event, we expect to find more eGovernment initiatives in the future. Future versions of this strategic plan could include other technologies, such as wireless, video on demand, and artificial intelligence technologies. Future versions also could include direct links to County Agricultural Commissioners and the U.S. EPA processes and systems. Attempting to incorporate them now would complicate an already ambitious undertaking. For this reason, we have chosen to leave them out of this plan.

## C. Methodology

To provide focus for this plan, DPR executives identified five core business processes and individuals with knowledge of each, and then directed an evaluation of each process to identify process improvements and eGovernment initiatives. Conducting our review of business processes allowed the DPR to look beyond organization boundaries (“silos”) to keep customer needs as our primary focus.

The five business processes examined are:

- ❑ Pesticide registration
- ❑ Licensing and certification
- ❑ Permitting and enforcement
- ❑ Pesticide use reporting
- ❑ Mill assessment.

After determining the DPR’s readiness for change, we focused on business process improvements in order to simplify and integrate each process in preparation for the next step, which is enabling the process with technology, as appropriate. For each process, we examined current activities, products, performance, and alignment with strategic goals. Through a number of workshops with employees and interviews with business partners, management and staff identified recommendations to improve each process, including moving each to the Internet, as appropriate, and transforming to a virtual service delivery environment.

The DPR conducted visioning and goal-setting sessions with employees and managers, and held a number of facilitated sessions to assess and prioritize the eGovernment initiatives identified earlier. During these facilitated sessions, employees identified barriers to implementing potential eGovernment initiatives, and then prioritized the initiatives.

The plan is consistent with the DPR’s draft 2001 Strategic Plan, supports the Governor’s eGovernment executive order, and is aligned with the State’s MyCalifornia portal objective for a seamless government.

## D. Related Efforts and Documents

This plan builds on the fundamentals of DPR’s mission, vision, and strategic goals. The Department’s mission is to protect human health and the environment by regulating pesticide sales and use, and fostering reduced-risk pest management. The DPR’s accompanying vision is a California where pest management is safe and effective, and contributes to a clean, healthy, sustainable environment. The mission and vision for eDPR were derived directly from these overall guiding statements.

Results of our eGovernment strategic planning activities leading up to this plan are documented in a number of companion documents. These documents include a readiness assessment, public sector e-services delivery leading practices review, a comprehensive process improvement and eGovernment review, and quick returns.

### eDPR Strategy Development Documents

[www.cdpr.ca.gov/docs/factshts/process.htm](http://www.cdpr.ca.gov/docs/factshts/process.htm)

- *Virtual Service Delivery Environment: Readiness Assessment*
- *Government Information Portals and Service Delivery Websites: Leading Practices*
- *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates (two volumes)*
- *Virtual Service Delivery Environment: Quick Returns.*

## 2. Background

Following is background information useful in understanding what eGovernment is. We also briefly describe the importance of improving business processes before fully implementing eGovernment, and present an overview of DPR's roles and primary services.

### A. Defining eGovernment

#### Defining eGovernment

eGovernment \ e-'go-ver(n)-ment \ n : the provision of enhanced access to government information, delivery of government services, and participation in the democratic process through secure, electronic technology designed to protect privacy. (Source: Executive Order D-17-00, Governor Gray Davis)

The ability of government to interact with employees, constituents, regulated entities, and other government entities may be in the form of obtaining information, filing applications, providing documents with a filing, or making payments. A goal is to provide services and information in a way that makes sense to customers, is easy to use (fewest mouse clicks), and is available any time and any place convenient to the customer.

of professional staff to higher-value activities, increased customer satisfaction, and reduced cash float

- *State government:* elimination of Department barriers, creation of a single face of government, and widespread access to public information.

The Governor's vision for eGovernment is centered on citizens and businesses, the owners of government.

This "customer-centric" approach recognizes that citizens and business partners will use the Internet to build a relationship with government that is convenient, personal, accessible, and secure.

In order to remain relevant to its customers' needs, the DPR will have to commit itself to new ways of fundamentally

General benefits from eGovernment solutions will differ for each customer served:

- *General public:* easier and greater access to public information and democratic processes, access anytime/anywhere, easier downloading of forms and transacting business with government, and more accountability from government
- *Regulated community:* reduced response times, reduced application and filing times, access anytime/anywhere, and increased ease of doing business
- *State agencies:* better service to the public, easier information sharing, reduced staff time spent entering data and processing paperwork, deployment

transforming how the DPR conducts its business. Existing Internet technologies offer the DPR opportunities to provide services conveniently, consistently, and efficiently, with security and reliability. As the DPR realigns its business processes and establishes a virtual service delivery environment to meet the demands of a wired constituency, it will need an adaptable architecture and applications that support improved business processes.

Customer interactions with DPR include registering pesticide products, searching and obtaining labels for pesticides that control a pest, obtaining and renewing applicator licenses,

developing County work plans, filing pesticide use reports, researching statewide pesticide use, and submitting mill assessments. eGovernment allows us to be more responsive in this relationship, and to respond more efficiently.

Improving on this customer relationship using eGovernment involves a number of enabling electronic techniques, any one of which could be applied to any DPR program area. **Exhibit 2-1**, following this page, provides examples of each technique from the eGovernment initiatives included in Chapter 6 of this plan. These techniques, applied over an open architecture and basic network services, can enhance citizen and the business community's relationship with government and improve our performance and efficiency.

## B. Changing Business Processes

"Technology is about 20 percent of the solution, understanding content and having good processes and people in place working through the culture [is] the other 80 percent."<sup>1</sup> The DPR recognizes that effective eGovernment not only enables improvements to existing processes, it also provides for new ways of conducting business.

The DPR also recognizes the tremendous opportunities provided by improving our business processes. Department management conducted an intensive review of five core business processes in order to simplify and integrate each process, and then identified both technology and organizational enablers to support the improved processes. Each improvement identified by the DPR is designed to reduce the time we take to

deliver services, eliminate unnecessary activities, improve access to program information that our stakeholders need, improve data quality, and/or assign accountability for performance. The DPR's approach aligns directly with recommendations from the Legislative Analyst's Office on what the Legislature should look for in a good eGovernment proposal.<sup>2</sup>

Our process improvement efforts are presented in the two-volume report, *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates* ([www.cdpr.ca.gov/docs/factshts/process.htm](http://www.cdpr.ca.gov/docs/factshts/process.htm)). The report presents nearly 200 potential initiatives to improve how we now conduct business, including potential initiatives that leverage Internet technologies to support process improvements.

The DPR is developing plans to prioritize the business process improvements and will begin implementing them during fiscal year 2001/02. We are prepared to address the key challenge of managing the transition to a more streamlined organization as we begin deploying specific process improvements.

We will evaluate investments in eGovernment solutions that support these improved business processes to determine their value. We measure value by the demand for the online service and the expected feasibility of the initiative. For those investments with significant demand and expected feasibility, we will determine how the investment will be funded and how projects will be initiated and managed for successful implementation.

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<sup>1</sup> Larry Chait, *The Knowledge Paradox: How to Manage your Most Strategic Asset*, 1999.

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<sup>2</sup> Elizabeth G. Hill, "EGovernment" in *California: Providing Services to Citizens Through the Internet*, January 24, 2001.

### Exhibit 2-1. Electronic Government Techniques and Examples

Technique	Examples of DPR eGovernment Initiatives (Chapter 6 presents all initiatives)
Consumer search and resource discovery: Guides end users toward the information or services they desire	<ul style="list-style-type: none"> <li>❑ Internet access to registration guidance and information</li> <li>❑ Key word search capabilities to the enforcement procedural guidance manual</li> </ul>
Customer relationship management: Captures end user profiles and usage behavior to adjust the provider's capabilities to meet each customer's demand, customize products and services for that customer, and learn how to serve that customer better the next time services are requested	<ul style="list-style-type: none"> <li>❑ Internet access to current pesticide product license image</li> <li>❑ Internet access to product label database extracts</li> <li>❑ Internet access to registration databases</li> </ul>
Payment authorization and settlement: Provides authorization for the payment vehicle presented by the customer, payments to selling organization, and an invoice or debit to the customer	<ul style="list-style-type: none"> <li>❑ Electronic submission of pesticide product registration – pilot</li> <li>❑ Online pesticide applicator license application</li> <li>❑ Online pesticide applicator license renewal</li> </ul>
Electronic forms submission: An alternative to submitting standard transactions if an organization lacks EDI capability	<ul style="list-style-type: none"> <li>❑ Electronic submission of pesticide product registration – pilot</li> <li>❑ Online pesticide use reporting</li> </ul>
Workflow applications: Automates the flow of documents to employees for processing	<ul style="list-style-type: none"> <li>❑ Electronic submission of pesticide product registration – pilot</li> <li>❑ Electronic submission of product label submission - pilot</li> <li>❑ Electronic submission of Mill Assessment Quarterly Report</li> </ul>
Document content management: Use of a markup language to insert "tags" into a document (such as a word processing file) that convey useful information about that document, and allows Internet search engines to locate the document	<ul style="list-style-type: none"> <li>❑ Electronic submission of pesticide product registration - pilot</li> <li>❑ Extranet access to registration reports</li> <li>❑ Internet access to pesticide applicator license study guides and materials</li> <li>❑ Internet access to enforcement process</li> </ul>

## C. DPR Overview

### *DPR role*

The DPR plays a pivotal role in protecting California's environment. The DPR headquarters and four regional offices work to evaluate and mitigate environmental and human health impacts of pesticide use, protect workers and the public from potential hazards, and encourage the development and use of pest control practices that are both environmentally sound and effective. Strategic partnerships with other CalEPA departments and other State agencies (e.g., Department of Food and Agriculture) ensure a coordinated and effective approach to pesticide regulation, regardless of the impacted media (air, water, and biota).

The DPR is vested with primary responsibility to enforce federal and state pesticide laws in California. The core strength of DPR's enforcement program is its partnership with County Agricultural Commissioners. The State brings a depth of scientific and regulatory expertise and a statewide vision for enforcement to this partnership. The counties bring a breadth of expertise, local experience, and a more intimate vision for their community needs.

### *What does DPR do?*

The DPR protects human health and the environment by regulating pesticide sales and use, and by fostering reduced-risk pest management. The DPR's primary services include:

- ❑ Evaluating and registering pesticide products

- ❑ Evaluating potential workplace hazards and developing better methods for evaluating and mitigating exposure potential to enhance worker and environmental protections
- ❑ Monitoring the environmental fate of pesticides and evaluating reduced-risk pest management practices to protect the environment
- ❑ Using existing and new statutory requirements to ensure the completion of an up-to-date toxicological data base for all pesticide active ingredients
- ❑ Licensing commercial applicators, dealers, and advisors
- ❑ Coordinating pesticide use reporting and maintaining a history of all pesticide used in California, the largest such repository in the world
- ❑ Testing fresh produce for pesticide residues
- ❑ Providing training, coordination, oversight, and technical and legal support to County Agricultural Commissioners to strengthen uniform enforcement of pesticide regulations in the field
- ❑ Promoting integrated pest management techniques through grants and research.

The DPR operates with an annual budget of nearly \$60 million (FY 2000/01), with a staff of about 440, including scientists from many disciplines. Their work is augmented by approximately 400 biologists working for agricultural commissioners in all 58 counties on local pesticide enforcement.

## DPR mission and vision

### DPR Mission

*Protect human health and the environment by regulating pesticide sales and use, and fostering reduced-risk pest management*

### DPR Vision

*A California where pest management is safe and effective, and contributes to a clean, healthy, sustainable environment*

The DPR draft strategic plan is intended to create a blueprint from which to build a dynamic organization committed to environmental protection and with the capacity to anticipate and react to a changing world. We recognize that serving a highly diverse customer base requires sensitivity, accessibility, and exceptional communication skills.

Our strategic intent is supported by the following seven guiding principles that reinforce the potential and purpose of eGovernment:

- ❑ We utilize quality science and experience-based knowledge in our decisions
- ❑ We are innovative and forward thinking in resolving problems
- ❑ Our decisions are timely, open, consistent, and equitable
- ❑ We are practical, pragmatic, and open to change
- ❑ We maximize our effectiveness through coordination with others
- ❑ We are responsive and service-oriented to all our constituents
- ❑ We seek to balance our actions in recognition of the diverse needs of those we affect.

## D. Current DPR eGovernment Capabilities

The DPR's primary presence on the Internet is to provide information. This information includes a description of DPR programs and services, various publications, various chemical and product databases, laws and regulations, and contacts. No DPR services are yet available online. **Exhibit 2-2**, following this page, provides a summary of information sources now available on DPR's website.

The DPR is now in various stages of deploying two projects that will deliver department services using Internet technologies:

- ❑ The California pesticide information portal (CalPIP) will deliver Internet access to pesticide use information through the DPR website. The proposed interface will provide access to detailed pesticide use and chemical information that currently is not available to the public in an integrated, user-friendly fashion.
- ❑ The county registration for pest control licensing system will pilot the concept of allowing commercial pest control advisors, businesses, and pilots to view county registration requirements and submit a county registration online, 24 hours a day and 7 days a week. The pilot also will provide counties online access to the registration requestor's license status and compliance history prior to approving the registration.



**Exhibit 2-2. Current DPR Information Offered Online**

<b>Business Process</b>	<b>Online Information</b>
<b><i>Pesticide registration</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Notices of proposed and final decisions (weekly)</li> <li><input type="checkbox"/> List of materials entering evaluation process (weekly)</li> <li><input type="checkbox"/> Product label database</li> <li><input type="checkbox"/> Chemical dictionary database</li> <li><input type="checkbox"/> Firm/registrant database (company name and address)</li> <li><input type="checkbox"/> Current Section 18 emergency exemptions</li> <li><input type="checkbox"/> Registration instructions and downloadable forms</li> <li><input type="checkbox"/> Registration desk manual, with links to related information such as codes and regulations</li> </ul>
<b><i>Licensing and Certification</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Summary of license types and requirements for some license types</li> <li><input type="checkbox"/> Knowledge expectations and study material list for PCA examination (by subcategory)</li> <li><input type="checkbox"/> Current examination results</li> <li><input type="checkbox"/> Examination schedule</li> <li><input type="checkbox"/> List of valid license and certificate holders (updated weekly)</li> <li><input type="checkbox"/> Continuing education class schedule (pending and approved)</li> <li><input type="checkbox"/> DPR contacts</li> </ul>
<b><i>Permitting and Enforcement</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> State Prioritization Plan for Pesticide Use Enforcement Activities</li> <li><input type="checkbox"/> Sample negotiated work plan</li> <li><input type="checkbox"/> Enforcement Initiative – Proposals to Improve Enforcement of California's Pesticide Regulatory Program and implementation plan</li> <li><input type="checkbox"/> Residues in fresh produce reports (1995 to 1997)</li> <li><input type="checkbox"/> CAC administrative civil penalty reports (1996/97)</li> <li><input type="checkbox"/> Pesticide regulatory activities summary report (1998/99)</li> <li><input type="checkbox"/> List of CAC names and addresses</li> <li><input type="checkbox"/> Policy/Procedures Letters (2000 to 2001, though not all have attachments)</li> <li><input type="checkbox"/> Procedural Guidance Manual for Pesticide Enforcement Personnel</li> </ul>



Exhibit 2-2 (*continued*)

Business Process	Online Information
<b><i>Pesticide Use Reporting</i></b>	<ul style="list-style-type: none"><li><input type="checkbox"/> Pre-formatted reports<ul style="list-style-type: none"><li>▪ Annual top five uses, by county, 1998 through 1999<ul style="list-style-type: none"><li>• Top five pesticides used</li><li>• Top five sites in pesticide used</li></ul></li><li>▪ Annual pesticide use summary report, by commodity, 1990 through 1999<ul style="list-style-type: none"><li>• Statewide</li><li>• County</li></ul></li><li>▪ Annual pesticide use summary report, by chemical, 1990 through 1999<ul style="list-style-type: none"><li>• Statewide</li><li>• County</li></ul></li></ul></li><li><input type="checkbox"/> Corrections to CD ROM datasets (1992, 1993, 1996)</li></ul>
<b><i>Mill Assessment</i></b>	<ul style="list-style-type: none"><li><input type="checkbox"/> None</li></ul>

### 3. Vision for eDPR

In order to achieve the full potential of eGovernment to improve the way customers interact with the DPR, we must first define our mission, vision, and strategic goals that will provide direction on this important journey:

- ❑ Our mission presents what we are charged with doing in redefining our customer relationships, and how we propose to do it using eGovernment
- ❑ Our vision presents what we will look like if we successfully implement our strategies and achieve our full eGovernment potential
- ❑ Our strategic goals define the end result that eGovernment will achieve to realize our vision.

We also address how our eGovernment strategy supports the Governor's vision for eGovernment. Our alignment with the Governor's vision is critical to ensure that we will be able to work together with other departments, minimize duplication of efforts, share common technology solutions, foster innovation, and remain focused on the owners of our government, California citizens.

At the conclusion of this section, we illustrate how our eDPR strategic goals align with our DPR strategic goals.

In Chapter 6 of this strategic plan, we provide the suggested initiatives that will allow us to realize our vision and goals. Full descriptions of each initiative are provided in **Appendix A** to this strategic plan.

#### A. eDPR Mission

##### eDPR Mission

*To deliver all pesticide program services using cost-effective, useful, and accessible eGovernment technology solutions that support our environmental protection mission.*

Our eGovernment efforts must support the Department's mission to protect human health and the environment by regulating pesticide sales and use, and fostering reduced-risk pest management. Enabling our business processes with eGovernment technologies will require that we build upon our existing infrastructure, incorporate best practices such as those being deployed by the Governor's office, and create integrated solutions for employees, California citizens, and businesses.

#### B. eDPR Vision

##### eDPR Vision

*People have immediate and reliable access to pesticide regulation information and can conveniently conduct their business with the DPR.*

The Governor's eGovernment Executive Order provides the foundation for a vision that uses technology to improve government services. Our vision supports the Governor's, and includes the following essential elements:

- ❑ **Leadership.** Our vision requires that we provide leadership in transforming how we operate and adopting an external, customer-centered focus. We must incorporate best practices, clarify the business case in order to mobilize support, directly engage our

customers for input and advice as we design and deploy our initiatives, and establish firm but realistic project deadlines.

□ **Share information and knowledge.**

eGovernment implies direct public participation in decision making and an open government. The type, amount, and timeliness of information available and the openness of our decision making process strongly influences the decisions we make.

We must facilitate collaborative work and sharing of pesticide knowledge, enabling greater involvement of the public in their own governance. However, pesticide information, whether from the private sector or the government, can be sensitive and will be protected accordingly.

- **Transform our business processes and organization.** Our vision directly implies that we continuously improve our business processes to meet the needs of our customers and to reduce cycle times and unnecessary costs. We then must fully leverage these improvements with technology and organizational changes. We also must focus on creating a “one-stop” self service government, as this is the most powerful way to capture the benefits of eGovernment.

eGovernment is as much about organizational change as about technology itself. We must create an eGovernment project office to help develop and deliver eGovernment services. We must continue to invest in training, and change job descriptions to include an expectation of on-going education and learning.

- **Integrate solutions.** Expansion of the Internet allows a greater reach for electronic government, making it more open, less expensive, and easier to use. Recognizing this, we must not propose strategies that will favor

one group over another in the competitive commercial environment. All of our eGovernment initiatives must use open, inexpensive, publicly available tools.

- **Partner with individuals, organizations, businesses, and government.** In pursuing our eGovernment initiatives, we must work as partners with citizens, our County Agricultural Commissioner (CAC) partners, regulated communities, industry partners, and the U.S. EPA. These partners can advocate continuous improvement of our processes, provide integrated solutions that meet demands of our customers, and capitalize on widely accessible technologies that allow people to interact with us regardless of physical barriers or knowledge of how we are organized.

## C. eDPR Strategic Goals

### *Strategic Goal 1: Employees*

*Enable Department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions*

eGovernment has the potential to make DPR employees and CACs more knowledgeable, more enabled, and more productive in their daily work. Our goal is to provide a dynamic work environment that fosters collaboration, promotes continuous learning, and provides DPR employees and employees of our CAC partners with real-time, reliable information for meeting and satisfying customer needs. Our business processes and technology will be integrated to make the most efficient use of the DPR's and CAC's workforce and the most effective use of technology.

## Strategic Goal 2: Constituents<sup>1</sup>

*Deliver immediate access to all Department information about environmental impacts and benefits of pesticide use in California*

Our goal is to provide value-added information to constituents. We want to capture information faster and make it available in real-time. Our constituents should have convenient, personalized access to DPR-maintained information from both structured and unstructured sources. We should leverage our significant investments in intellectual resources and acquired information. Access to such information must be guarded by an appropriate level of security based on agreement among the legal, functional, and regulated communities.

## Strategic Goal 3: Regulated Entities

*Offer all regulated entities the ability to conduct all of their transactions with the Department electronically, using methods that are secure, convenient, and tailored to their needs*

Our goal is to create and deliver online tools and Internet capabilities that improve the communication and transactions with the regulated community. Regulated entities would complete the end-to-end process of any transaction by using self-directed services, electronic payment transfers, and electronic signature technology.

These eDPR goals are linked to our strategic plan goals. All three directly support goals to:

- ❑ Goal 4: Deliver our programs equitably and transparently to ensure full access and full protection to all, including low income and minority people
- ❑ Goal 5: Build good relationships through extensive outreach, communication, and improved responsiveness.
- ❑ Goal 6: Improve the delivery of our programs through securing adequate resources, improving business processes, maintaining a strong workforce, and deploying eGovernment solutions.

## D. Aligning with the State's eGovernment Vision and MyCalifornia Portal

The Governor initiated a major initiative to prepare and move the state forward by reinventing itself to provide service to citizens and business communities through various electronic media. The goal is to develop a state website "portal" ([www.my.ca.gov](http://www.my.ca.gov)) that allows for one-stop access for government information and services, with comprehensive search capability covering a full range of customer interests, and links to subjects based on the topics themselves rather than along departmental lines.

Governor Gray Davis issued Executive Order D-00-17 (September 8, 2000), requiring each agency and department to adhere to technical standards for Web design and compatibility. Specifically, the Governor appointed a Director of eGovernment and directed:

- ❑ State agencies and department to integrate new and existing Internet applications into the State portal's software and network architecture
- ❑ State agencies and departments to develop eGovernment implementation plans that identify services that can be provided electronically.

<sup>1</sup> Any party outside the state government that has an interest in the implementation of environmental information.

The eGovernment Director, in conjunction with the Department of Information Technology, is the official driver to ensure that eGovernment continues to evolve. With the help of numerous state departments, constitutional offices, and private sector partners, this team is creating an eGovernment strategy and procuring the building blocks for a State of California portal that all State agencies can use.

Improving customer service must be at the top of the agenda for public sector leaders so that technology can help them successfully build eGovernment. As explained by the State's Director of eGovernment, the goal of eGovernment is to serve constituents.<sup>2</sup> Customers should be involved before development of any Department's eGovernment initiative to confirm that they demand it, during development to determine it is what they need, and after the service is provided to determine that they are satisfied with it.

The State's eGovernment Director is developing standards that will include requirements for the technology, system architecture, and the "look and feel" of state web sites and Internet projects. The Governor has requested that departments convert to the new look and feel over a period of time, and "all new projects must match the new portal look and feel."<sup>3</sup> The Governor requires that each eGovernment initiative be fully compatible with the State's new portal design. This compatibility includes both design and transactional elements.

<sup>2</sup> Arun Baheti, *Portal Strategies for Government*, Government Technology Conference, Sacramento, California, May 16, 2001.

<sup>3</sup> Letter from Susan Kennedy, Deputy Chief of Staff and Cabinet Secretary, October 19, 2000.

### State Portal Platform Strategy<sup>a</sup>

<b>Best of breed</b>	Find and use the best of breed for each component of the portal, rather than one consolidated contract for entire portal. Replace a component supplier, as needed, to maintain best of breed.
<b>Connectivity</b>	Use existing legacy systems and share the portal framework with others so that others do not incur costs again and again for the same technology.
<b>Shared modules</b>	Build individual modules for shared processes (e.g., procurement, licensing, payment) that can be used by multiple departments. Select module suppliers who are best of breed.
<b>Vertical portals</b>	Organize capabilities by function (e.g., taxation, health, social services) and leverage all of the technologies already in the framework.
<b>Multi-channels</b>	Support face-to-face, Internet, voice, and wireless access to eGovernment services.

<sup>a</sup> Source: Arun Baheti, State of California eGovernment Director, presentation at Government Technology Conference, May 15, 2001, Sacramento California.

The Governor's eGovernment team has determined that ease of navigation throughout the State's website portal and its links is critical. The DPR interprets this portal characteristic to mean that permit information transmittal or business transactions in no more than five to eight steps (screens), and that each screen should have a "return home" box prominently displayed.

For DPR, the primary benefits of the Governor's eGovernment efforts will be to:

- Reduce our hardware and software costs. The state portal includes a common infrastructure and procured tools such as presentation solutions, search engine, and content management tools. With these already defined and procured, we can reduce and potentially avoid costs of identifying and procuring our own platform. A description of the nine components of the state's portal platform are provided in **Exhibit 3-1**, following this page.

### Exhibit 3-1. State Portal Platform <sup>(a)</sup>

<b>User interface</b>	The combination of menus, screen design, keyboard commands, command language, and online help that creates the way a user interacts with the portal. Input devices include a keyboard, mouse, stylus, and microphone. For portals, the underlying issues bringing presentation to the forefront are: (1) the portal is accessing many kinds and channels of information — and it all has to fit comfortably in a small display space, and (2) to support "zero-training" operation for users, the portal appearance must communicate familiarity and context.
<b>Transaction engine</b>	Software to route documents and forms, receive and respond to intermediate "state changes" in a business process (e.g., credit approval messages from authorization systems), initiate transactions, trigger events in invoicing, inventory, or distribution systems, and generally provide audit and housekeeping services to monitor instances of pre-defined process flows. The buttons on a Web browser to initiate a purchase with little more than a single mouse click are prominent features of the information display. While this is an easy transition graphically (a large, prominently labeled button), the implications behind the scenes are major—clicking the button means an infrastructure for process support must have been put into place.
<b>Personalization/membership</b>	Allows individuals to tailor information feeds and displays on a portal. Presentation personalization at the portal is fundamentally different in character from desktop windowing environments. In portal interfaces, tools manage the information and control its transmission. With portal interfaces, users can: (1) select to display or not to display particular categories or channels of content, and (2) control the placement and prominence of the content items they require.
<b>e-Commerce</b>	Use of computers and electronic communications in business transactions. e-Commerce may include the use of electronic data interchange (EDI), electronic money exchange, Internet advertising, Web sites, online databases, computer networks, and point-of-sale (POS) computer systems.
<b>Authentication</b>	A security measure for verifying the identity of a user that is logging onto a computer system or verifying the integrity of a transmitted message. Passwords, digital signatures, Internet protocol spoofing, and biometrics are forms of authentication.

**Exhibit 3-1 (continued)**

<b>Search</b>	<p>A centralized facility to access specific information items throughout the collections available at the portal or accessible to it. The method for finding this information is usually done by maintaining indices of Web resources that can be queried for the keywords entered by the user. A search engine is software on the Internet that allows users to search for files and information, and presents the results by source, concept, or relevancy.</p>
<b>Analytics</b>	<p>Analysis of the use of historical data and real-time business events to enhance a business' performance and improve customer service. This includes the analysis of all aspects of user behavior, such as website traffic, website paths, content usage, and transaction information. Analytics can allow prediction of customer behavior in real time to allow customization of marketing programs and personalization of Web content.</p>
<b>Content management</b>	<p>Management of the information contained on a Web site, including the structure in which it is presented. This includes tools to design, develop, categorize, manage, and help reduce costs and meet user needs in relation to Web publications on both Internet/intranet sites.</p> <p>This portal component supports content categorization, creation, authorization, inclusion in portal content collection(s), and distribution in multiple online or hardcopy formats. A portal generally is based on a publishing and distribution process that encourages timely creation and flow of information in the organization, but also avoids complex infrastructure and administration requirements. Areas requiring a planner's focus are: (1) categorizing, (2) authoring, (3) approvals and posting processes, and (4) maintenance.</p>
<b>XML/API integration</b>	<p>Provides the foundation function of accessing information from a wide range of internal and external information sources and making them available for display at the portal. The potential information sources will change at any time, and include structured information (e.g., databases), unstructured information (e.g., document collections, Web pages), and process events (e.g., alerts and real-time collaboration).</p> <p>Extensible markup language is a programming language developed by the World Wide Web Consortium, and allows Web developers to create customized tags that will organize and deliver content more efficiently. It is used for defining data elements on a Web page and business-to-business documents.</p> <p>Application program interfaces allow organizations and suppliers to integrate other applications on a portal that are relevant to an organization information needs.</p>

(a) Sources for the descriptions provided include The Delphi Group, various portal suppliers, and NewPoint Group research.



- ❑ Allow us to focus on administering critical programs and delivering services to our customers. With the MyCalifornia portal in place, the DPR can leverage the portal's infrastructure, allowing us to focus on managing the Department and choosing which services to be moved to the Internet.

The DPR's eGovernment strategic plan fully captures the intent of the Governor's eGovernment executive order, and provides a comprehensive vision for how electronic government can transform the Department, better serve our customers, and operate more efficiently. The implementation strategy for our strategic plan includes "stakeholder reviews" to help shape the DPR's eGovernment efforts, a key imperative of the State's eGovernment Director. Our implementation strategy also includes development of Web and Internet project FSRs and BCPs that will be compliant with the Governor's draft guidelines.

The DPR's eGovernment strategic plan includes an examination of the role for extranets to conduct secure business with our customers and business partners. Extranets will play a major role in protecting the transaction process and helping establish confidence for customers in what will be a new way of doing business with the Department and the State.

Technologies identified by the State's eGovernment Director will be explored as the DPR develops short- and long-term eGovernment strategies. Policies concerning accessibility, risk mitigation, and security measures for eGovernment services will be developed in future department-wide policies and procedures.

Customer service is a key priority of the DPR. We have identified improvements needed in five core DPR business processes to reduce cycle time, increase quality of our products/services, and reduce costs. Enabling these improved processes with Internet technologies is included in many of the strategies presented in this strategic plan. In order to develop more than digitally enhanced reengineering, we have built this strategic plan atop customer needs and insights into what they need from us.

## E. Aligning eDPR Strategic Goals with DPR Strategic Goals

**Exhibit 3-2**, on the following page, illustrates that our eGovernment goals align with our Department's strategic goals.



**Exhibit 3-2. Aligning eDPR Strategic Goals with DPR Strategic Goals**

DPR Strategic Goal	eDPR Strategic Goal		
	1. Enable department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions	2. Deliver immediate access to all department information about environmental impacts and benefits of pesticide use in California	3. Offer all regulated entities the ability to conduct all of their transactions with the department electronically, using methods that are secure, convenient, and tailored to their needs
1. Assure that the quality of California's air, water and land resources is not adversely affected by pesticides	✓	✓	
2. Assure that people, especially workers and sensitive populations, are protected from unacceptable pesticide risks		✓	✓
3. Advance the development and adoption of pest management systems that reduce risks to people and the environment		✓	
4. Deliver our programs equitably and transparently to ensure full access and full protection to all, including low income and minority people	✓	✓	✓
5. Build good relationships through extensive outreach, communication and improved responsiveness	✓	✓	✓
6. Improve the delivery of our programs through securing adequate resources, improving business processes, maintaining a strong workforce and deploying eGovernment solutions	✓	✓	✓

## 4. Goals and Objectives

### Strategic Goal 1: Employees

Enable department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions

### Strategic Goal 2: Constituents

Deliver immediate access to all department information about environmental impacts and benefits of pesticide use in California

### Strategic Goal 3: Regulated Entities

Offer all regulated entities the ability to conduct all of their transactions with the department electronically, using methods that are secure, convenient, and tailored to their needs

Transforming how the Department conducts business requires improving our business processes and enabling these improved processes with improved technology and organizational changes. eGovernment allows us to enhance our relationships with our customers, expand services, and make them accessible to a greater number of citizens and businesses. This section presents the Department's goals and objectives for expanding our eGovernment capabilities, providing a roadmap for the future.

The Department's first goal is focused on employees, the second on constituents, and the third on the regulated community. For each goal, this plan identifies one or more objectives.

Because the eDPR goals and underlying objectives are mutually reinforcing, the strategies and initiatives presented later in Chapter 7 of this plan may satisfy more than one goal or objective.

### A. Strategic Goal 1: Employees

*Enable Department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions*

#### Objectives

- 1.1 **Integrate front-and back-end business processes to allow seamless eGovernment activity and to reduce paper processing.** The Department will prioritize and begin implementing identified improvements to five business processes. eGovernment initiatives then can leverage the value of these improvements by further extracting time, cost, and effort from our business processes. The Department will provide an adequate technical infrastructure, based on an open architecture and standards, to support easy and reliable Internet access to information, interactions, and transactions. Employees will be able to view on their workstation information from a variety of DPR applications, databases, and unstructured data sources (e.g., word processing documents, product label images, and current licenses).

**1.2 Create a work environment that fosters collaboration and teamwork, and improves technology and business integration throughout the Department.** The Department will develop the capacity to electronically share and process an increasing volume of documents, data, and information generated by our business processes. All employees will be able to collaborate with each other and DPR's business partners, share documents and information automatically, manage relationships with the regulated community, and avoid duplication of efforts. As a result, the DPR will operate as efficiently as possible.

**1.3 Increase employees' understanding and usage of eGovernment and Internet technology.** The Department will establish training programs to help staff and managers apply eGovernment strategies to their work. Department management will continue to tap the enthusiasm and skills of program staff by involving them directly on implementation of eGovernment projects. This requires we continue implementing our plans to develop a project management culture and to provide our employees appropriate project management training.

## **B. Strategic Goal 2: Constituents**

*Deliver immediate access to all Department information about environmental impacts and benefits of pesticide use in California*

### **Objectives**

**2.1 Develop an integrated, online view of pesticide information.** The Department manages a tremendous reservoir of data and information about pesticide use, impacts, and benefits. The DPR's collection of pesticide use records, the world's largest, is now available on CD. However, the Department will make much more information easily accessible using the Internet, while protecting confidential and sensitive information. Our constituents will be able to search for and access registration and licensing activity information, pesticide products and labels, enforcement activities and policies, pesticide use, and mill assessment compliance, collections, and deliberation information.

#### **Getting Product Information Easily**

The department will provide online access to pesticide products and applications. For example, a county official would be able to identify pesticides that are appropriate for a specific pest, such as the glassy winged sharpshooter, infesting a specific crop. The official then could view the currently registered label for each product. If a product is a restricted material, the official could view the reason for the restriction.

A citizen could download information about pesticide usage that had occurred in their vicinity. The citizen then would be able to research details about the applied pesticide, including its intended use, known effects on persons and animals, and other pertinent facts.

**2.2 Present a customer-centric, online view of the DPR.** The Department will collect information as quickly as possible and make this information immediately available using the Internet. Access to data and information will be provided in a way that makes sense to the person looking for answers. The Department also will employ search engine technology and implement best of breed content management practices. As a result, constituents will be able to perform comprehensive, quick searches of available information, including data now “locked” inside databases and various unstructured sources (e.g., word processing files and product label images). Constituents will be better informed about the impacts and benefits of pesticide use and about the laws, regulations, and policies that affect them the most.

**2.3 Provide options for constituents to communicate with the Department online.** The Department will offer online communications to constituents that will make it easier and more convenient for them to get information and to provide feedback. One vital feedback mechanism would allow constituents to tell the DPR about potential errors found in pesticide use data. These online communication capabilities will allow us to provide answers and resolve problems as quickly as possible. This capability also will allow constituents to share their views about new Department proposed changes in policies and services, and about the quality of the pesticide information available using the Internet.

### **Registering Products Made Easy**

The department will pilot a project that allows companies to register pesticide products via the Internet, completing the entire transaction online. For example:

#### ***Instructions***

At DPR’s website, a product manufacturer would be able to click on “Register my product”, and complete a simple questionnaire. The website then would provide a clear checklist showing required forms, labels, U.S. EPA documents, and scientific data that the applicant needs to provide for their particular request (e.g., from a simple label amendment to registration of a new active ingredient). The applicant also would be told the time needed by the DPR to complete its evaluation.

#### ***Processing***

The company could submit the entire package and payment electronically, using internationally accepted standard templates. The submission would be routed to the appropriate DPR registration specialist and scientists for evaluation. From their workstations, DPR evaluators could access specific test data and the product label via a few mouse clicks, and be able to search within and between data studies to locate associated data. The evaluators could compare product labels electronically, annotate and bookmark data studies, electronically manipulate any tabular data provided, and access non-traditional information, such as videos and photographs.

#### ***Feedback***

The DPR would automatically notify each registrant when their submission entered and left each review step (intake, technical review, scientific review, and final decision), and the time it took to complete each step. The applicant also would be automatically provided every evaluation report on the day DPR completed the report, as well as DPR’s notice of final decision.

## **C. Strategic Goal 3: Regulated Entities**

*Offer all regulated entities the ability to conduct all of their transactions with the Department electronically, using methods that are secure, convenient, and tailored to their needs*

### **Objectives**

**3.1 Conduct our business processes electronically.** The regulated community will be able to use the Internet to determine what they need to submit to the Department, apply for and renew licenses and certificates, make payments, and track the progress of their applications and submissions. Regulated entities will be able to conduct business with

the DPR knowing that confidential information they submit is secure.

**3.2 Provide all internal forms, publications, and DPR work products to our business partners online.** Several DPR forms are now available using the Internet. The DPR will expand access to other materials in order to help regulated entities through each step of doing business with us. Regulated entities will be able to access our required forms, as well as to process guidance materials, answers to frequently asked questions, procedures manuals, data submission requirements, data acceptance criteria, scientific data evaluation reports, and performance standards. These materials will be Internet-enabled, allowing an entity to complete and submit forms and to access subjects of interest with very few mouse clicks.

<b>eDPR Goals and Objectives</b>	
<b>Goal</b>	<b>Objective</b>
1. Enable department employees to operate as efficiently as possible through implementation of appropriate eGovernment solutions	1.1 Integrate front-and back-end business processes to allow seamless eGovernment activity and to reduce paper processing
	1.2 Create a work environment that fosters collaboration and teamwork, and improves technology and business integration throughout the department
	1.3 Increase employees' understanding and usage of eGovernment and Internet technology
2. Deliver immediate access to all department information about environmental impacts and benefits of pesticide use in California	2.1 Develop an integrated, online view of pesticide information
	2.2 Present a customer-centric, online view of the DPR
	2.3 Provide options for constituents to communicate with the department online
3. Offer all regulated entities the ability to conduct all of their transactions with the department electronically, using methods that are secure, convenient, and tailored to their needs	3.1 Conduct our business processes electronically
	3.2 Provide all internal forms, publications, and DPR work products to our business partners online

## 5. Strategies and Initiatives

To achieve our goals and objectives, and to transition to a virtual service delivery environment, the Department of Pesticide Regulation will employ the four high-level strategies presented in this chapter. These strategies begin to address the considerable effort required to support DPR planned eGovernment initiatives, also presented in this chapter.

We recognize that our people are experienced with, and our processes are developed for, a business model that will require significant change in an eGovernment environment. Therefore, the initiatives presented in this chapter reflect only a portion of the changes DPR must make to benefit from eGovernment. These other required changes are presented in the eDPR objectives (Chapter 5), the eDPR strategies (Chapter 6), and the architecture requirements (Chapter 7). This is why the eGovernment initiatives need to be flexible and represent the direction that DPR expects to take. Further, we expect to uncover more specific details for our transition as we engage in more detailed planning and implementation efforts.

### A. Strategies

- |             |  |
|-------------|--|
| Strategy 1: | Improve Business Processes             |
| Strategy 2: | Develop and Sustain Focus              |
| Strategy 3: | Build an eGovernment Culture           |
| Strategy 4: | Build a Sound Technical Infrastructure |

The opportunities for expanding the use of eGovernment to provide faster, convenient, and efficient online services to our customers are immense. Our challenge is to make the transition from simple information publishing to a virtual service delivery environment. Therefore, our four initial strategies are to:

- ❑ Improve business processes to simplify and integrate each process, then enable these improved processes with eGovernment solutions and organizational changes
- ❑ Develop and sustain a customer focus to ensure better, more efficient, and friendly online services
- ❑ Build an eGovernment culture within the DPR to maximize the potential customer service benefits of eGovernment
- ❑ Build an adequate technical infrastructure to support our planned Internet presence.

#### Getting Ready for eGovernment Initiatives

The DPR recognizes the effort required to prepare for a transformation to a virtual service delivery environment. Among other efforts, the DPR will need to:

- Establish sound project management policies and procedures. The DPR should establish, staff, and determine governing roles of a project management office (PMO).
- Institutionalize information technology capital planning and project management. This includes treating our eGovernment initiatives not as information technology projects but as strategic business initiatives, built around our core business processes.
- Facilitate and be disciplined regarding communication and knowledge sharing. The DPR should improve its ability to manage organizational knowledge (i.e., create a process to acquire, share, and use knowledge).
- Improve organizational agility. The DPR must create a learning environment to support individual and institutional learning. This should include a strategy to train and educate employees for project management, process improvement, and change management.
- Improve technology effectiveness. This includes improvements to data quality, data integration, application development methodologies and documentation, and document directory structures.

### ***Strategy 1: Improve Business Processes***

Our primary strategy for meeting our eGovernment goals is to improve DPR business processes. We will continually identify opportunities to reduce the time we take to deliver services, eliminate unnecessary activities, improve access to program information that our customers need, improve data quality, and assign accountability for performance. We then will leverage these improved processes with eGovernment solutions and organizational changes.

The DPR management team determined our readiness for transforming to a virtual service delivery environment and completed a comprehensive evaluation of five core business processes. Results of this strategy are more fully described in companion documents identified on page 1-2 of this strategic plan. Management is prioritizing the suggested improvement initiatives and creating plans to deploy an improvement portfolio.

Among the dozens of process improvement initiatives already identified by the DPR, several directly impact our ability to successfully deploy eGovernment initiatives. Our plans are to prioritize these improvement opportunities and implement those considered higher priority. Implementing these will depend on Department and program budget constraints.

### ***Strategy 2: Develop and Sustain a Customer Focus***

There is a growing demand at all levels of government for better service and productivity. The DPR will reconsider how our customers (employees, constituents, and regulated entities) need, perceive, and digest information and services in a viewable, electronic format.

#### **Process Improvements**

The DPR completed a comprehensive evaluation of five core business processes, and identified over 100 improvements. Each improvement is designed to reduce the time we take to deliver services, eliminate unnecessary activities, improve access to program information that our stakeholders need, improve data quality, and/or assign accountability for performance. Examples of improvements include the following:

- Eliminate scientific data evaluations that are beyond the scope of the scientific discipline
- Ask the U.S. EPA and the registrant to provide a copy of every completed U.S. EPA data evaluation report, and eliminate data evaluations already completed by the U.S. EPA
- Provide online pesticide use reporting access to growers and applicators
- Provide to the registrant any DPR product as soon as it is being used for DPR decision making
- Eliminate any product licensing renewal activity that does not add value to the registrant or DPR
- Establish and publish the DPR's goal for the number of days to process a pesticide product submission
- Stagger applicator license and certificate renewals throughout the year
- Evaluate whether to develop a formula for allocating the mill to CACs that is tied more closely to performance
- Adopt performance measures for the permitting and enforcement process
- Provide DPR regional office staff more decision-making authority on enforcement actions
- Evaluate the feasibility of deploying a county-developed permitting and use reporting system to all counties

Our strategy to sustain a customer focus includes the following:

- Involve customers before development of any eGovernment initiative to confirm that they demand it, during development to ensure it is what they need, and after the service is provided to determine that they are satisfied with it.



- ❑ Transition our existing website to a portal that allows navigation of our information and services by category and customer interest. The DPR will make the portal our preferred means to deliver services, although we will maintain and improve existing service channels.
- ❑ Devote time and attention to inter-agency and inter-government design, implementation, and coordination of our eGovernment initiatives. We must do this in order to determine that our initiatives meet the needs of our Web-enabled customers and to provide for a more seamless and consistent interaction with DPR and other State of California agencies. We will continue to work with the State's eGovernment Director for guidance on best practices, standards, architecture requirements, and portal component solutions.

### ***Strategy 3: Build an eGovernment Culture***

The challenge of new technology and the mandate to improve customer service requires an increased commitment to training. Without fully enhancing staff capabilities, the Department could miss the potential customer service benefits of eGovernment.

We will develop a strategy to train and educate employees about eGovernment. Training to be provided will not only be in how a new system or tool works, but also how eGovernment fits in our overall business strategy and a customer-centric orientation. Components of this strategy build upon a Department-wide training strategy, and include the following:

- ❑ Required minimum number of eGovernment training and education hours that each employee is encouraged to complete

- ❑ Core eGovernment training curriculum (e.g., what eGovernment is and how it is now being used, specific DPR eGovernment services and initiatives, technologies involved, common challenges, best practices for using the Internet and DPR capabilities, and project management)
- ❑ Identification and cataloging of relevant courses that could satisfy the curriculum (including those from the State's training center and the Health and Human Services Agency Data Center, and those offered by the private sector)
- ❑ Individual training and education plans developed annually by each employee for each fiscal year, and approved by a supervisor (identifying courses, dates, locations, and approximate costs)
- ❑ Additions to operating expense and equipment budget to strengthen DPR training/education program.

The fundamental principles and practices of good information technology planning and management still apply with eGovernment solutions. We will:

- ❑ Strengthen our project management capabilities
- ❑ Develop a clear purpose, scope, and measurable objectives for each project
- ❑ Assess risk and develop risk mitigation strategies
- ❑ Use industry standard technology and solutions where appropriate
- ❑ Adopt and follow technology standards
- ❑ Thoroughly train and support end-users



- ❑ Include a proper mix of program staff who are subject matter experts with technology staff who have required skills to analyze and deploy projects
- ❑ Review and evaluate performance metrics.

The DPR also will work to stabilize the number and skills of our technology workforce required to build and maintain web-enabled products and services. The Department will recruit to fill authorized positions to obtain key knowledge areas such as enterprise systems integration and web development. We will contract for selected information technology skills, such as Oracle database design and development, and Java, C++ , and Perl programming languages.

#### ***Strategy 4: Build a Sound Technical Infrastructure***

The DPR recognizes that a sound technical foundation needs to be in place before eGovernment services can be offered reliably and effectively to the public. We will build an infrastructure that supports an end-user's experience of easy and reliable electronic access to Department information and services.

We will design and build an infrastructure to support our eGovernment initiatives within our broader information technology infrastructure. Our back-end systems and business processes must operate together seamlessly behind the scenes, offering a single face to the public and allowing transactions to occur in a way that is reliable and easy to navigate. We also must meet the eGovernment architecture requirements defined by the State's eGovernment Director.

In Chapter 7 of this strategic plan, we describe our plans for an architecture and technology infrastructure that supports this strategy. The primary components of our infrastructure strategy are:

- ❑ Adequate network capacity or bandwidth (to handle customer traffic without overload or unanticipated downtime)
- ❑ Platform and software application reliability (to respond consistently and unambiguously to customers in all locations, at all times)
- ❑ Interoperability (to communicate and exchange data among DPR and selected external applications and databases)
- ❑ Department-wide architecture plan (to align information technology system requirements with business processes, to reduce application development costs, to support and promote applications and databases that readily exchange and share information, and to reduce investment risk)
- ❑ Alternative media, such as wireless devices (to keep pace with the public's requirements).

Using the state's proven portal technology solutions, the DPR will acquire what have now become basic tools for managing an intranet/internet. These include:

- ❑ A quality Web publishing or content-management tool. This investment will allow Department business units to manage content centrally, while authorizing end-users or work groups to update or publish to certain portions of the Department's intranet or internet.
- ❑ Search engines, categorization tools, and methods that allow end-users to personalize their "home page"
- ❑ Interaction management systems to replace paper-based and online forms now used to obtain information from applicants and registrants.

## B. Initiatives

Our eGovernment initiatives presented at the end of this chapter were identified and developed during a comprehensive review of the following five DPR business processes:

- ❑ Pesticide registration
- ❑ Licensing and certification
- ❑ Permitting and enforcement
- ❑ Pesticide use reporting
- ❑ Mill assessment.

During numerous facilitated workshops and individual interviews, managers, staff, and representatives from regulated entities and associations identified potential eGovernment solutions that would support improved business processes and begin to transform our relationships with employees constituents, and regulated entities. These process improvements and eGovernment solutions are presented in a two-volume report titled: *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates* (March 30, 2001).

### Prioritizing eGovernment Initiatives

Our prior process improvement efforts identified over 50 potential eGovernment initiatives. The Department has limited resources with which to initiate and deploy eGovernment initiatives and must choose which initiatives to deploy first. To prioritize initiatives, managers and staff followed a structured, quantitative approach that considered each initiative's strategic role to the department and assessed barriers to successful implementation. The result is a prioritized list of e-government initiatives, which became the basis for inclusion in this strategic plan and phasing in the initiatives over time.

During a series of facilitated workshops, Department managers and staff prioritized the potential eGovernment initiatives that were presented in the process improvement report cited above. The prioritization followed a structured methodology described in **Appendix B** of this strategic plan. In general, the structured approach required each workshop participant to assess the following:

- ❑ The **strategic importance** of each eGovernment initiative. To do this, participants assessed each potential eGovernment initiative against five defined characteristics: mission critical, value, risk, impact, and complexity. **Appendix B** to this plan presents definitions for each of these five characteristics.
- ❑ The **potential barriers** to successfully implementing each eGovernment initiative. Workshop participants identified one or more barriers to successfully implementing each potential eGovernment initiative, and then assessed how difficult it was for the DPR to overcome each barrier. The same barrier (e.g., lack of staff resources, security risks) could have been applied to more than one eGovernment initiative.

Input from these prioritization workshops were compiled and scored. A single list of eGovernment initiatives was prepared, ranked from highest priority to lowest priority. This prioritized list then became the source of eGovernment initiatives that the DPR considered for inclusion in this strategic plan.

In order to confirm these priorities, DPR management also assessed the criticality and feasibility of each eGovernment initiative, using the structured approach developed through the Department of General Services (DGS) Enterprise Business Office by PricewaterhouseCoopers. This approach is described in **Appendix C** of this

strategic plan. Based on this assessment, each initiative is assigned one of the following four definitions:

- ❑ *Target* (high criticality, high feasibility)
- ❑ *Pursue* (high criticality, low feasibility)
- ❑ *Permit* (low criticality, high feasibility)
- ❑ *Defer* (low criticality, low feasibility).

In general, those eGovernment initiatives considered higher priority by workshop participants also are considered initiatives to target or pursue, as defined by the DGS approach.

**Exhibit 5-1**, following this page, provides our eGovernment initiatives for each of five core business processes. The initiatives are identified as one of the following three types:

- ❑ **Target.** These initiatives are considered to be of greater benefit to those impacted than other initiatives (high criticality), while being relatively less risky (high feasibility) than other initiatives. These target initiatives are our short-term eGovernment initiatives. These short-term initiatives are either already planned for implementation or feasibly can be implemented by the end of fiscal year 2003/04.

- ❑ **Pursue.** These initiatives are considered to be of greater benefit to those impacted than other initiatives (high criticality), while being relatively more risky (low feasibility) than other initiatives. These are considered acceptable and worth pursuing because of their perceived high value. Although considered more risky, our strategy is to show that our eGovernment approach can meet the needs of complex as well as simple applications. These long-term initiatives may be achieved by the end of fiscal year 2003/04.
- ❑ **Permit.** These initiatives are not as essential to our business as other initiatives (low criticality), but are more easily deployed than other initiatives (high feasibility). These initiatives are not as important to our overall eGovernment strategy as the other initiatives, and will be considered only if available resources permit.

A full description of each initiative is presented in **Appendix A** to this strategic plan. For each initiative, we provide a cross-reference code to our two-volume process improvement report where the eGovernment initiative is first described.

Exhibit 5-1. Strategic eGovernment Initiatives

Business Process	eGovernment Initiative
<b><i>Pesticide Registration</i></b>	<p><b><i>Target</i></b></p> <ol style="list-style-type: none"> <li>1. Internet access to registration guidance and information</li> <li>2. Internet access to current pesticide product license image</li> <li>3. Online pesticide product license renewal</li> <li>4. Electronic submission of product label submission – pilot</li> <li>5. Statistics on incomplete registration applications posted on website</li> <li>6. Enhanced Internet-based queries to identify restricted pesticide</li> <li>7. Internet access to pesticide product license application</li> <li>8. Extranet access to registration reports</li> </ol> <p><b><i>Pursue</i></b></p> <ol style="list-style-type: none"> <li>9. Electronic submission of pesticide product registration - pilot</li> </ol> <p><b><i>Permit</i></b></p> <ol style="list-style-type: none"> <li>10. More user-friendly reports in response to public record requests</li> <li>11. Internet access to registration databases</li> </ol>
<b><i>Licensing and Certification</i></b>	<p><b><i>Target</i></b></p> <ol style="list-style-type: none"> <li>1. Electronic submission of continuing education sponsorship application</li> <li>2. Evaluation of Internet-based examination</li> <li>3. Evaluation of a 24-hour access phone number to validate license</li> <li>4. Internet access to additional licensing and certification information</li> <li>5. Online pesticide applicator license renewal</li> <li>6. Internet access to study guides and materials</li> <li>7. Online pesticide applicator license application</li> <li>8. Intranet access to additional policy, procedure, and database information</li> </ol> <p><b><i>Pursue</i></b></p> <ol style="list-style-type: none"> <li>9. Bar coded licenses and certificates</li> </ol> <p><b><i>Permit</i></b></p> <ol style="list-style-type: none"> <li>10. County Agricultural Commissioner extranet access to licensee information</li> <li>11. Internet access to pesticide applicator license database</li> </ol>
<b><i>Permitting and Enforcement</i></b>	<p><b><i>Target</i></b></p> <ol style="list-style-type: none"> <li>1. Internet access to county training packages</li> <li>2. Key word search capabilities to procedural guidance manual</li> <li>3. Electronic submission of activities summary forms (Report #5)</li> <li>4. Internet access to enforcement process</li> <li>5. Answers to frequently asked questions</li> </ol> <p><b><i>Permit</i></b></p> <ol style="list-style-type: none"> <li>6. Extranet access (CACs) to notices of final decision</li> <li>7. Internet access to pesticide residue data</li> <li>8. Improvement of online enforcement letters</li> </ol>

Exhibit 5-1 (continued)

Business Process	eGovernment Initiative
<b><i>Pesticide Use Reporting</i></b>	<p><b><i>Target</i></b></p> <ol style="list-style-type: none"> <li>1. Online means to notify DPR about errors in PUR data</li> <li>2. Internet access to PUR documentation</li> <li>3. Internet access to product label database extracts</li> <li>4. Browser-based access to PUR database</li> </ol> <p><b><i>Pursue</i></b></p> <ol style="list-style-type: none"> <li>5. Online pesticide use reporting</li> </ol>
<b><i>Mill Assessment</i></b>	<p><b><i>Target</i></b></p> <ol style="list-style-type: none"> <li>1. Internet access to mill assessment guidance and information</li> <li>2. Answers to frequently asked questions</li> <li>3. Electronic submission of Mill Assessment Quarterly Report</li> </ol>

A few remaining eGovernment initiatives identified during our process improvement efforts, will be deferred. These initiatives are identified in **Exhibit 5-2**, following this page and described in Appendix A to this plan. We do not

consider these to be critical (low criticality) and believe they are complex, require manual intervention, or are not particularly feasible for some other reason (low feasibility). Including these initiatives in our eGovernment efforts would result in little gain to customers at substantial risk.

Exhibit 5-2. Deferred eGovernment Initiatives

Business Process	eGovernment Initiative
<b><i>Pesticide Registration</i></b>	<b><i>Defer</i></b> None deferred
<b><i>Licensing and Certification</i></b>	<b><i>Defer</i></b> 1. Evaluation of remote kiosks for examinations
<b><i>Permitting and Enforcement</i></b>	<b><i>Defer</i></b> 1. Hand held devices for market place surveillance 2. Hand held devices for product compliance program 3. Online forum for administrative civil penalty cases 4. Extranet access to enforcement case files
<b><i>Pesticide Use Reporting</i></b>	<b><i>Defer</i></b> None deferred
<b><i>Mill Assessment</i></b>	<b><i>Defer</i></b> 1. Internet access to pounds sold data

## C. Business Lifecycle Phases

The DPR and the state can use the Internet to change how it interacts with customers. Most state web sites currently are organized by department, and within each department, by functional “silos”. Instead, the state’s MyCalifornia portal has begun the transformation of online state government, organized around services that citizens and businesses need and questions they want answered.

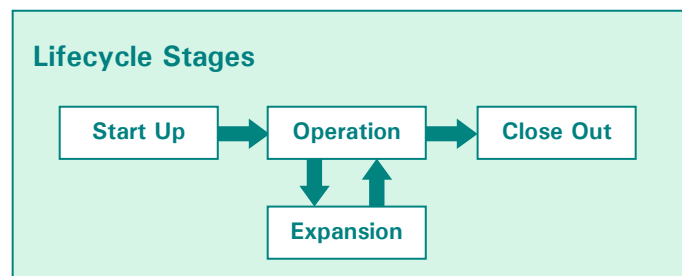
During fiscal year 2001/02, the Department of General Services (DGS), Enterprise Business Office (EBO) investigated and addressed several issues surrounding the state’s ability to create a “one-stop” Internet solution to make it easier for companies to conduct their business with the state. Two completed studies identify a framework to help develop an “intentions-based” user interface, and to help understand how the DGS EBO can develop software applications that can be shared by many departments.

In one study, the DGS EBO, through the assistance of a UCLA research center, asked businesses what they want when they interact with the state.<sup>1</sup> Essentially, do they want to know about different government departments and their responsibilities, or do they want to start a business, renew a license, or check regulations affecting their business? The Internet and related technologies can be used to create a one-stop access site for businesses seeking government services, in the same way that private sector websites serve their customers.

During a second study, with assistance from PricewaterhouseCoopers (PwC), the

DGS EBO conducted a business process review of government-to-business transactions in 20 State of California agencies to identify critical services provided to businesses.<sup>2</sup> The report documenting this review of 178 processes within these 20 agencies presents a business lifecycle analytical framework to organize the business processes across these different agencies. The framework identifies four major stages businesses may go through:

- ❑ Start up
- ❑ Operation
- ❑ Expansion
- ❑ Close out.



Within each stage, a business conducts a number of activities with the government. The report presents similarities found between the activities conducted by different industries at different stages. These similar processes are grouped into seven “lifecycle phases”:

- ❑ Initial set up
- ❑ Licensing
- ❑ Renewals
- ❑ Reporting
- ❑ Taxation
- ❑ Information/Customer service
- ❑ Claims and funding.

Definitions for these seven phases are provided in **Appendix C** of this strategic plan.

<sup>1</sup> The Survey Research Center, Institute for Social Science Research, University of California Los Angeles, *eGovernment Business Needs Assessment Survey*, March 2001.

<sup>2</sup> PricewaterhouseCoopers, *Business Process Review*, March 2001.

The DPR recognizes the significance of leveraging the development of software applications that can be shared by many departments and shared among many of the DPR eGovernment initiatives. For example, an application supporting electronic submission of county activities summary forms (Report #5) to the DPR could potentially be used for electronic submission of the DPR *Mill Assessment Quarterly Report*.

**Exhibit 5-3**, following this page, groups the DPR eGovernment initiatives presented earlier in Exhibit 5-1 by the lifecycle phases. DPR management will examine initiatives within each phase that could possibly share a software application developed once for that lifecycle phase. These lifecycle phase relationships will influence our deployment plans for similar eGovernment initiatives.

Lifecycle Phases				
Lifecycle Phase	Stages			
	Start Up	Operation	Expansion	Close Out
Initial Set Up	✓		✓	✓
Licensing	✓		✓	
Renewals		✓		
Reporting	✓	✓	✓	✓
Taxation		✓	✓	✓
Information/Customer Service	✓	✓	✓	✓
Claims and Funding		✓		



### Exhibit 5-3. eGovernment Initiatives Grouped by Business Lifecycle

Business Lifecycle	eGovernment Initiative <sup>a</sup>
<b><i>Initial Setup</i></b>	None. <sup>b</sup>
<b><i>Licensing</i></b>	<ol style="list-style-type: none"> <li>1. Electronic submission of product label submission – pilot (PR4)</li> <li>2. Internet access to pesticide product license application (PR7)</li> <li>3. Electronic submission of pesticide product registration - pilot (PR 9)</li> <li>4. Evaluation of Internet-based examination (LC 2)</li> <li>5. Online pesticide applicator license application (LC 7)</li> </ol>
<b><i>Renewals</i></b>	<ol style="list-style-type: none"> <li>1. Online pesticide product license renewal (PR 3)</li> <li>2. Online pesticide applicator license renewal (LC 5)</li> </ol>
<b><i>Reporting</i></b>	<ol style="list-style-type: none"> <li>1. Statistics on incomplete registration applications posted on website (PR 5)</li> <li>2. Extranet access to registration reports (PR 8)</li> <li>3. More user-friendly reports in response to public record requests (PR 10)</li> <li>4. Electronic submission of continuing education sponsorship application (LC 1)</li> <li>5. Electronic submission of activities summary forms (Report #5) (PE 3)</li> <li>6. Improvement of online enforcement letters (PE 8)</li> <li>7. Online means to notify DPR about errors in PUR data (PUR 1)</li> <li>8. Internet access to product label database extracts (PUR 3)</li> <li>9. Online pesticide use reporting (PUR 5)</li> </ol>
<b><i>Assessment</i></b>	<ol style="list-style-type: none"> <li>1. Electronic submission of <i>Mill Assessment Quarterly Report</i> (MA 3)</li> </ol>
<p><sup>a</sup> The code in parentheses after the initiative identifies the DPR business process and sequential number within that process that is identified for the initiative in Exhibit 5-1, earlier in this chapter.</p> <p><sup>b</sup> “Initial set up” refers to processes that a business must complete with the state in order to establish itself as a business that is allowed to operate in California. This phase includes four agencies – Employment Development Department, Franchise Tax Board, Board of Equalization, and Secretary of State. It does not include licensing or registration specific to a business industry.</p>	

Exhibit 5-3. (continued)

Business Lifecycle	eGovernment Initiative <sup>a</sup>
<b><i>Information/ Customer Service</i></b>	<ol style="list-style-type: none"> <li>1. Internet access to registration guidance and information (PR 1)</li> <li>2. Internet access to current pesticide product license image (PR 2)</li> <li>3. Enhanced Internet-based queries to identify restricted pesticide (PR 6)</li> <li>4. Internet access to registration databases (PR 11)</li> <li>5. Evaluation of a 24-hour access phone number to validate license (LC 3)</li> <li>6. Internet access to additional licensing and certification information (LC 4)</li> <li>7. Internet access to study guides and materials (LC 6)</li> <li>8. Intranet access to additional policy, procedure, and database information (LC 8)</li> <li>9. Bar coded licenses and certificates (LC 9)</li> <li>10. County Agricultural Commissioner extranet access to licensee information (LC 10)</li> <li>11. Internet access to pesticide applicator license database (LC 11)</li> <li>12. Internet access to county training packages (PE 1)</li> <li>13. Key word search capabilities to procedural guidance manual (PE 2)</li> <li>14. Internet access to enforcement process (PE 4)</li> <li>15. Answers to frequently asked questions (PE 5)</li> <li>16. Extranet access (CACs) to notices of final decision (PE 6)</li> <li>17. Internet access to pesticide residue (PE 7)</li> <li>18. Internet access to PUR documentation (PUR 2)</li> <li>19. Browser-based access to PUR database (PUR 4)</li> <li>20. Internet access to mill assessment guidance and information (MA 1)</li> <li>21. Answers to frequently asked questions (MA 2)</li> </ol>
<b><i>Claims and Funding</i></b>	None

## 6. Architecture Requirements and Principles

Our eGovernment initiatives must be integrated to reduce complexity, and delivered to our constituents in a timely manner. This chapter presents technology architecture requirements and principles that we consider will support these needs and our vision for a virtual service delivery environment. By following a measured and consistent approach to building and deploying eGovernment initiatives, we should increase the net benefits of each initiative.

The DPR contractor that assisted with development of this eGovernment strategic plan, NewPoint Group, Inc., prepared the architecture requirements and principles. NewPoint Group considered the draft architecture requirements already developed by the Governor's eGovernment task force.

### A. Architecture Requirements

"Architecture" is a blueprint or framework for technology to guide future planning and initiatives. Architecture provides an organized framework of principles, rules, conventions, and standards that are intended to guide design and construction activities so that all the structural components work together to satisfy the ultimate objective of the structure.

Architecture requirements set the boundaries and framework under which our eGovernment strategy must operate. The requirements define basic information technology (IT) requirements needed to support the critical business drivers identified by the State's eGovernment Director. Each of the 10 architecture requirements presented below were identified by the Governor's eGovernment task force.

#### Category 1 - Deliver Reliable, Secure and Accurate Information

- AR-1 Enable Secure Information Access and Use by Customers.
- AR-2 Establish Reliable Connectivity.
- AR-3 Provide Auditable Data Quality.
- AR-4 Secure and Protect Enterprise Information.

#### Category 2 - Accelerate Change and Decision Making

- AR-5 Adapt to Changing Business Requirements.
- AR-6 Employ a Coordinated, Flexible and Interoperable Inter Agency Approach.

#### Category 3 - Simplify Complexity and Lower Costs

- AR-7 Rely on Mainstream Technology.
- AR-8 Support Standards.
- AR-9 Provide for a Managed Technology Environment.
- AR-10 Follow a Total Cost of Ownership methodology.

The 10 architecture requirements presented in this subsection identify high-level elements that our eGovernment strategy must provide in order for us to achieve our goals and objectives. These architecture requirements are presented in three categories:

- ❑ Deliver reliable, secure, and accurate information
- ❑ Accelerate change and decision making
- ❑ Simplify complexity and lower costs.

On the following pages, we briefly describe each architecture requirement, including potential benefits of meeting the requirement. We then present what the DPR intends to do in order to meet the requirement (shown in italicized text).

The DPR expects the Governor's Office and/or the Department of Information Technology (DOIT) to publish guidelines on these architecture requirements. The DPR will provide staff training on complying with and implementing these guidelines.

### **Category 1 - Deliver Reliable, Secure and Accurate Information**

The first priority for eGovernment is to provide the customer and the public with information that they can trust. To do this, the first four architectural requirements must be met.

#### **AR-1 Enable Secure Information Access and Use by Customers**

Secure access means that customers can get what they need with the assurance that no one else can access information that is private to them. Clear and accurate information is provided in the appropriate format, at the right time, and to the right customer, regardless of the geographic location or means of access.

Customers will have a higher level of confidence in the data and services they receive from DPR. Private data can be provided with a higher level of assurance of protection.

*The DPR will include data security in its criteria for selecting platforms, applications, and tools. Information Technology Branch (ITB) will be trained to support this requirement.*

#### **AR-2 Establish Reliable Connectivity**

Reliable connectivity means 24 hours a day, 7 days a week access from anywhere to DPR information and services. It also means that communication between customers is always available and reliable. This requirement provides the necessary

network infrastructure to allow connectivity between employees, constituents, regulated entities, and DPR electronic resources.

Reliable connectivity enables new and increasing communication for all customers. It raises customer productivity and confidence in DPR data and services.

*The DPR will utilize Teale Data Center or another center to gain professional hosting capabilities, physical security, and uninterruptible power supplies. DPR staff will be trained to interface with such a service and evaluate its performance.*

#### **AR-3 Provide Auditable Data Quality**

This requires that data is accurate, clear, and relevant. Data are continually checked and scrubbed and the results reported to management.

Common definitions and uses of data provide a number of benefits, including:

- ❑ Effective monitoring of data quality
- ❑ Clear, usable, intuitive data formats
- ❑ Accurate, valid, and up-to-date information in the production of all DPR products.

*The DPR will establish a program of gradually converting all databases with enterprise impact to Oracle, and include the automatic logging of all transactions for accountability. This requirement will apply to all new databases.*

#### **AR-4 Secure and Protect Enterprise Information**

This requires that data with DPR-wide impact be protected from unauthorized access and compromise while still being readily available to customers. Adhering to this requirement provides several benefits, including:

- ❑ Effective validation and protection of identity and other personal information
- ❑ Enhancement of data security and integrity
- ❑ Support of DPR operational recovery plan and DPR business continuity plan.

*The DPR will establish a central data management capability. ITB and other technology staff will be trained in the security policies published by the Governor's Office and DOIT.*

### **Category 2 - Accelerate Change and Decision Making**

This category addresses the changing environment in which DPR and State government must operate. It requires that the process for adapting to change and for making decisions be streamlined.

#### **AR-5 Adapt to Changing Business Requirements**

This requirement recognizes that DPR's business needs will change due to legislation, federal regulatory changes, and customer demand. Developing flexible infrastructure and applications will help DPR adapt to these changes. This flexibility extends to standards, support models, development tools, and business processes.

As business needs change and initiatives supporting one or more of our business processes are initiated, defining who has jurisdiction to ensure common DPR interests are sustained will be critical. This issue can be addressed with implementation of a governance plan that would provide for central coordination of technology solutions with enterprise-wide involvement. The plan can include leadership groups such as those already developed by the DPR: (1) the technology investment review council, and (2) computer workgroups.

*DPR will include flexibility in its criteria for selecting platforms, applications, and tools. DPR will develop a governance plan that clearly defines and streamlines the process of making IT decisions. The plan would provide for an organized and participative way of insuring that DPR's business units have a voice in the decisions about plans, policies, procedures, and the long-term direction of DPR's information technology.*

#### **AR-6 Employ a Coordinated, Flexible and Interoperable Inter Agency Approach**

Interoperable is the ability for one system to communicate or work with another. Hardware, application components, and data that comply with the same standard, or compatible standards, are said to be interoperable. They are able to communicate and exchange data, in effect work together. This requirement implies the acceptance and support of widely accepted standards. With multiple departments, as well as customers, supporting the same standard, communication and productivity are enhanced.

*The DPR will develop an internal working knowledge of "My California" state portal standards and other standards and policies published by the Governor's Office and DOIT. Appropriate DPR staff will be trained to work with these standards.*

### **Category 3 - Simplify Complexity and Lower Costs**

Simply lowering complexity will lower implementation and maintenance costs over the life of a project, thereby lowering the total cost of ownership (TCO). Lowering complexity without compromising quality is more difficult. The following four architectural requirements identify some approaches to achieving that result.

#### AR-7 Rely on Mainstream Technology

Mainstream technology are products and standards that are widely supported in the marketplace. The DPR's use of "My California" state portal and DOIT standards are expected to comply with this requirement.

Use of mainstream technology ensures that systems are designed and built with products and technology that will be widely supported into the future. These systems are cost effective because they leverage common internal and industry-wide skill sets and are implemented only in response to business needs.

*The DPR will include mainstream technology as a criteria for selecting platforms, applications, and tools. Appropriate staff will be trained to support this concept.*

#### AR-8 Support Standards

Standards are specifications for hardware or software that are either widely used or accepted (de facto) or are sanctioned by a standards organization (de jure). Not only must standards be adopted, they must be supported and enforced. This applies both to standards published by the Governor's Office and DOIT, and those developed within DPR.

Supporting these standards yields the benefits of wide acceptance, consistency, and flexibility. It leverages work done by other people and organizations in developing systems, platforms, and applications.

*The DPR will establish a quality assurance (QA) capability that reports to the DPR Chief Information Officer. The QA's mission will be to see that official DPR standards and policies are followed.*

#### AR-9 Provide for a Managed Technology Environment

A managed environment means coordinated action from an enterprise point of view rather than responding in an ad hoc manner. For technology, this means centrally managing data, infrastructure, and applications, and being proactive rather than reactive.

This approach leads to reliable, easily managed, maintained, and supported systems. In turn, this leads to lower implementation, maintenance, and operational costs.

*The DPR has established a technology investment review council (TIRC) with responsibility for developing a managed technology environment. Project management training will be provided for all appropriate DPR staff.*

#### AR-10 Follow a Total Cost of Ownership (TCO) Methodology

A TCO methodology requires that costs be taken into account for the entire life-cycle of an eGovernment solution. This means that not only must acquisition and implementation costs be taken into account, but also maintenance and operations costs, as well as indirect costs, such as downtime impacts on end-users.

Evaluating the total cost of a system includes whether or not it fits into DPR's overall eGovernment strategy. The goal of this requirement is to achieve lower overall costs for DPR and not evaluate IT in isolation. Evaluating costs from this point of view allows a more realistic projection of future costs.

*The DPR will include TCO in its criteria for selecting platforms, applications, and tools. Total costs of ownership will consider DPR-wide impacts rather than focusing only on direct impacts on an IT project or on the ITB.*

### B. Architecture Principles

Architecture principles are guiding principles that have a ‘timeless’ quality about them because they are defining the value system for the enterprise architecture. They are statements that communicate fundamental elements, truths, rules or qualities that must be exhibited by an enterprise.

#### DPR Architecture Principles

1. Information is an enterprise asset
2. Adherence to the enterprise architecture is a given
3. Adaptability and flexibility is a must in order to facilitate change
4. Enterprise architecture must support business needs
5. The enterprise must facilitate customer convenience and reach a broad customer base
6. “Reuse” and “simplicity” must be maximized to reduce effort and resources
7. Enterprise architecture should be properly established and monitored to ensure services are available to meet customer needs
8. Enterprise architecture must be viewed and managed at an enterprise level
9. Confidentiality and privacy cannot be compromised

These principles are necessary to ensure that eGovernment is seen from the customer’s perspective as one enterprise. Because of the diverse computing environment found in each state agency, the principles must be applied when eGovernment technology solutions are being developed and updated. Furthermore, the principles will assist DPR in making decisions on investment, development, and deployment of information technology.

The description of each architecture principle provided below is followed by strategic components that DPR must follow to successfully implement the principle. We derived the principles after reviewing the draft DPR strategic plan, our eDPR mission, vision, and goals, the business drivers, technology trends, and technology best practices. The principles apply across all domains (specific technology groupings), which are discussed in Chapter 7 of this strategic plan.

Our architecture principles are consistent with and complementary to eGovernment principles developed by the Governor’s Office.

#### ***Architecture Principle 1: Information is an enterprise asset***

Information is valued as a DPR asset, leveraged and shared across the enterprise to enhance competitive advantage and accelerate decision-making at all levels of the enterprise. eGovernment has strong implications for public participation and open government. DPR executives make policy decisions and decide how to interpret policies in the context of program and agency operations. The type, amount, and timeliness of information available and the openness of the decision process also are strong influences on the decision-making process.

The DPR must support a prudent use of environmental data. Shared information enables greater involvement of citizens in their own governance. However, environmental information, whether from the private sector or the government, can be sensitive and must be protected accordingly.



***Architecture Principle 2:  
Adherence to the enterprise  
architecture is a given***

All DPR groups that provide eGovernment services to our customers must adhere to DPR enterprise architecture principles, policies and standards.

***Architecture Principle 3:  
Adaptability and flexibility is a  
must in order to facilitate change***

The DPR enterprise architecture goal is to reduce integration dependence and complexity to the extent possible, and to ensure timely delivery of new functions and services.

***Architecture Principle 4:  
Enterprise Architecture must  
support business needs***

DPR's enterprise architecture must model the business processes and be adaptive to meet changing business needs. The architecture also must provide business processes access to more information about the business.

***Architecture Principle 5 :  
The enterprise must facilitate  
customer convenience and reach  
a broad customer base***

DPR must deploy information technology as a means of providing DPR customers with timely, quality service.

***Architecture Principle 6: "Reuse"  
and "simplicity" must be maximized  
to reduce effort and resources***

DPR should 'build' only applications that it cannot 'buy'. Those applications that are built should be shared across the enterprise, where appropriate.

***Architecture Principle 7:  
Enterprise architecture should be  
properly established and monitored  
to ensure services are available to  
meet customer needs***

The DPR enterprise architecture needs to have executive sponsorship to establish and continue to evolve the architecture to keep pace with the customer's need and increase services to the customers.

***Architecture Principle 8:  
Enterprise architecture must be  
viewed and managed at an  
enterprise level***

The planning and management of the DPR enterprise architecture must be unified. This principle holds even when the information technology responsibilities are decentralized. Without a unified approach, there is no single enterprise architecture because the priorities, principles, standards and configurations will not be the same.

***Architecture Principle 9:  
Confidentiality and privacy  
cannot be compromised***

Confidentiality and privacy are of the utmost concern to the customer and is also a top priority for DPR.



## 7. Required Capabilities

Certain capabilities should be in place for successful implementation of eGovernment. These are discussed in this chapter under the following headings:

- ❑ People Capabilities
- ❑ Process Capabilities
- ❑ Technology Capabilities.

### A. People Capabilities

#### Technology Investment Review Council

The DPR's Technology Investment Review Council is an ideal forum to develop and execute an IT governance structure. The TIRC includes DPR Assistant Directors and second level managers from all business/program areas within DPR, including the Information Technology Branch (ITB).

The TIRC makes recommendations regarding IT enhancements, modifications and new systems. The TIRC is supported by the existing IT working group, consisting of first level managers, key business staff, and the ITB liaison.

*DPR has established the TIRC and charged it with developing a DPR IT governance plan.*

#### Executive Leadership

The concept of executive leadership is fundamental support from the top down. It includes executive sponsorship, but implies more active participation in the form of committed and effective leadership. It allows for executive buy-in without the need to be involved in each incremental stage of a project.

#### Challenges of eGovernment

The challenge of putting DPR information and services online is significant. It will require:

- Understanding the needs and capabilities of our customers, stakeholders, and business partners
- Improving business processes and accountability
- Interfacing with back-office legacy systems
- Building a reliable and open enterprise infrastructure
- Addressing the public's trust with security, privacy, and confidentiality
- Funding within State's annual budget cycle
- Retaining, recruiting, and assembling a team with program knowledge who have required skills to analyze, manage, and deploy projects
- Building partnerships and shared governance with other State departments, local governments, and strategic partners (for a truly seamless view of government)
- Developing policies to guide each department's eGovernment activities toward statewide goal for a digital government.

The Department's executive team supports this eGovernment strategic plan. This sponsorship will remain critical throughout the transformation to a virtual service delivery environment.

*Members of DPR's executive team will be included in the TIRC. Each eGovernment initiative will be assigned an executive sponsor who is a member of the Committee. Executives will maintain a visible commitment to implementing eGovernment, and help build employee, constituent, and regulated community awareness of, and commitment to, eGovernment. Executives will allocate appropriate resources to support eGovernment initiatives.*

## Workforce skills

The IT environment is changing quickly. Skills once vital are now obsolete. Increasingly employees need to be skilled outside of the traditional IT curriculum and in subjects unheard-of even five years ago.

Required Capabilities	
Capability	Present at DPR
<b>People</b>	
<input type="checkbox"/> Technology Investment Review Council	✓
<input type="checkbox"/> Executive leadership	
<input type="checkbox"/> Workforce skills	✓
<input type="checkbox"/> Project Management Office	
<b>Process</b>	
<input type="checkbox"/> Governance	
<input type="checkbox"/> IT capital planning	✓
<input type="checkbox"/> Change management	
<input type="checkbox"/> Content management	
<input type="checkbox"/> Risk management	
<input type="checkbox"/> Performance measures	
<b>Technology</b>	
<input type="checkbox"/> Centralized management	
<input type="checkbox"/> Enterprise architecture	
<input type="checkbox"/> Technical standards	
<input type="checkbox"/> Electronic record retention standard	
<input type="checkbox"/> Help desk	✓
<input type="checkbox"/> Capacity testing	
<input type="checkbox"/> Centralized data management	
<input type="checkbox"/> Data warehouse	✓
<input type="checkbox"/> Authentication	
<input type="checkbox"/> Centrally managed IT security	✓
<input type="checkbox"/> Disaster recovery	✓

Because of the rapid shift in the IT environment towards the Internet and electronic service delivery, the skill sets required for successful implementation of eGovernment projects are not universally present in DPR. As DPR eGovernment efforts gain momentum, it will become critical for DPR to develop technology professionals skilled in and focused on Internet and eGovernment technologies.

Providing DPR staff with skills necessary to implement the capabilities needed for eGovernment will leverage the expertise of the vendor community and provide for on-going support in-house of mission critical applications. Doing so increases the level of ownership through familiarity, minimizes the impact of unexpected changes in business practices, and potentially reduces the overall costs for supporting eGovernment.

*The DPR will identify necessary skill sets and then recruit, hire, and retain people with those skill sets. Examples of skill sets required are project management, system development life cycle, security management, and specific programming languages. The training strategy already presented in Chapter 6 (strategy 3) will be adopted that is designed, in part, to keep IT staff skills current.*

## Project Management Office

A project management office (PMO) is the developer and keeper of a consistent and coherent methodology for implementing information technology projects. Experts in the various techniques that make up a project methodology are the best staff for the PMO.

The PMO also provides knowledge and training, as needed, to DPR staff on how to use the methodology and the “best practices” that make it effective and efficient. Establishing a PMO will elevate project methodology to a core

competency at DPR and provide a knowledgeable resource to the rest of DPR staff. The DPR's current reliance on individual, heroic efforts for successful projects would be replaced with an optimized, repeatable process.

Risk is a pervasive characteristic of all projects and endeavors. Managing this risk is a critical part of our eGovernment efforts. Organized risk management reduces both the likelihood of unforeseen problems occurring during a project and the overall cost of implementing new technology.

*The DPR will establish a project management office that is responsible for developing a project management methodology and tools, as well as training DPR staff in the methodology and tools. The PMO will provide advice and support to IT and program staff. This office will support the DPR's plans for a technology investment review council.*

*The DPR will work with DOIT to document a risk management standard that will be applied to eGovernment projects.*

## B. Process Capabilities

### Governance

Successful governance will require effective leadership and support from DPR's executives and a clear organization structure. Governance is the structure, role, and process for achieving consensus and making decisions about eGovernment. It is a key aspect of eGovernment readiness.

A governance plan ensures that the delivered services are closely aligned with customer business requirements through DPR program and customer participation. Such a plan defines:

- ❑ The roles and responsibilities of parties, as well as protocols for coordinating responsibilities among all parties and program areas
- ❑ Centralized decision-making functions (e.g., standards, funding, and performance measures)
- ❑ Coordinated development and maintenance of eGovernment solutions.

*The DPR will develop an IT governance plan designed to build consensus throughout the department. This plan will provide direct leadership and sponsorship from program areas and the Information Technology Branch, and will address the broad issues cited in the prior paragraph.*

### IT Capital Planning

Capital planning is intended to make sure DPR resources are used effectively. The process provides allows for DPR management to review business cases, feasibility study reports, and work plans of all IT initiatives that project sponsors submit for funding to obtain annual funding. Capital planning is a systematic approach to managing the risks and returns of IT investments, and to ensure that eGovernment initiatives are sufficiently justified to receive final funding approval. The process identifies the IT initiatives that implement strategies in terms of specific actions, schedules, and resources.

Good capital planning includes the following principles:

- ❑ Maximum use of commercial off-the-shelf technology
- ❑ Consideration of alternative technical approaches
- ❑ Streamlined acquisition strategies (e.g., California master award schedule (CMAS); and alternative procurement feasibility study reports).

### IT Capital Planning Phases

<b>Select:</b>	How do you know you have selected the best projects?
<b>Control:</b>	What are you doing to ensure the project will deliver the benefits projected?
<b>Evaluate:</b>	Based on your evaluation, did the systems deliver what you expected?

To support good capital planning, DPR must:

- ❑ Make certain that project management processes are in place
- ❑ Regularly validate cost, benefit, and risk data used to support IT investment decisions
- ❑ Focus on measuring and evaluating results.

Informed capital planning decisions can only occur if accurate, reliable, and up-to-date information is included in the decision-making process. Project cost data must be tracked and be easily accessible.

Where appropriate, Benefits must be defined and quantitatively and qualitatively measured in outcome-oriented terms. Risks must be quantified and mitigated to better ensure project success. Good capital planning ensures more realistic cost estimates and that funding is more effectively used.

*The DPR already has established the Technology Investment Review Council. The DPR will develop a written capital planning policy, develop a process, and establish criteria to identify projects that must adhere to this process. The DPR will establish a metrics process that will collect appropriate information from each project that is needed for capital planning. The DPR will establish an annual performance review for appropriate eGovernment initiatives to*

*evaluate effectiveness at meeting planned objectives. The DPR will incorporate a “make or buy” analysis in the planning process of every project that must be approved by the IT executive steering committee.*

### Change Management

eGovernment is bringing about major changes in the way customers interact with State government and in the way government employees work. Constituents and regulated entities will find interacting with DPR very different. While this may be much more convenient for them, it can be very confusing. DPR employees and IT staff may find that their jobs will change significantly as a result of eGovernment. New technologies will require new skills and knowledge.

Change management is about people leading the change effort and people who are expected to implement the change. Organized change management uncovers hidden risks and provides a smoother transition to implementing eGovernment. It provides better employee relations and job stability by preparing employees for new responsibilities.

*The DPR will develop a change management plan for eGovernment that will involve all employees and representatives for constituents and regulated entities. The plan will include the planning and budgeting of IT organizational changes.*

*The DPR will take proactive steps to ensure that affected employees are kept informed of the changes to their jobs and the importance of their new responsibilities. Employees who are affected by these changes will be trained not only in the new technologies used in their jobs, but also how eGovernment fits in our overall business strategy and a customer-centric orientation.*

### Content Management

eGovernment content may come in many flavors:

- ❑ *Transaction content* includes information in force at the time of the transaction (e.g., pesticide product license renewal fee)
- ❑ *Enterprise content* includes structured data (e.g., the California Pesticide Information Portal data warehouse), unstructured data (e.g., a pesticide product registration evaluation report), and process events (e.g., an automatic e-mail message to a registrant that DPR completed a workstation evaluation)
- ❑ *Website content* includes text, graphics, and video

Content management is the process to capture, organize, and deliver this content. It involves tools that allow business units to update the content of DPR's website pages directly, without intervention from IT staff. The concept includes manual or automated processes to filter, format, route, index, store, share, version, and link content.

Content management reduces the operational costs for maintaining a web site, which is the basis for most eGovernment capabilities. It avoids ad hoc maintenance of web pages that can result in a scattered look and feel. An important factor is reducing legal liability from obsolete or unauthorized material being posted on DPR's website.

Implementation costs can be significant. A content management tool must be purchased and then customized. Acquiring a tool that has more functionality that can be utilized or one that requires excessive customization can result in unnecessary, and potentially significant, costs.

*The DPR will obtain a content management tool that is compatible with the Governor's Office portal components and implement it for the DPR web site. The DPR will follow the lead of the Pesticide Registration Branch in defining a taxonomy (categorization) of selected unstructured data sources in order to provide the basic foundation for managing content on a website.*

### Performance Measurement

Performance measures provide management with a picture of eGovernment results. When used effectively, performance measures can help gauge our success in meeting eGovernment objectives. Specific metrics provide information to assess an initiative, such as customer satisfaction with DPR service, time frames to issue renewed pesticide product and applicator licenses, degree to which information and services are accessible, and percent of business transactions fulfilled through an online delivery solution.

*The DPR will select an appropriate performance measure(s) for each eGovernment initiative as the initiative is funded and developed.*

## C. Technology Capabilities

### Centralized Management

Best practice demands an optimum balance between centralized and decentralized management of information technology systems. The optimum balance between centralization and decentralization is different for each organization. It is important that all the business units support an agreed-upon balance.

### DPR Decentralized Activities that Could Be More Effectively Managed Centrally

- Help desk support for all systems, applications, and databases
- A data dictionary of all DPR databases managed centrally, where specific data definitions are “owned” by individual business units
- All web and application servers
- A shared portal environment and website
- Reliable backup, restoration, and disaster recovery
- Business continuity plans in the event of a technology outage
- Network management
- Change management
- Problem management

*The DPR will charge the Technology Investment Review Council with defining the balance between centralized and decentralized management, in accordance with the DPR IT governance plan. Help desk support may be the first such activity that is transitioned to a fully centralized activity. Appropriate DPR staff will be trained to identify and support this balance.*

### Enterprise Architecture

Enterprise architecture, along with the policy required for ensuring compliance with the standards set forth in the architecture, is a baseline requirement for eGovernment. The model that DPR chooses must be able to support the rapid changes, new applications, and existing applications needed to support eGovernment activities.

An enterprise architecture will provide a seamless appearance for DPR eGovernment capabilities, promote operational efficiency and application effectiveness, and make more effective use of existing resources.

*The DPR will develop an explicit, documented enterprise architecture. We will require that all DPR technology decisions be consistent with the documented enterprise architecture.*

### Technical Standards

Technical standards are well thought out, officially approved, documented processes. Generally, they include best practices in order to achieve maximum effectiveness. Standards provide an agreed-upon set of specifications for hardware or software.

The rationale for developing standards is that the risk of failed projects will cost more than developing the standard. They allow novice staff to perform at a higher skill level and ensure a process is implemented in a highly effective manner with uniformly good results.

### Required Capabilities of DPR's Enterprise Architecture

- Scale to support growth (to handle customer traffic without overload or unanticipated downtime)
- Be architecturally sound and reliable (to respond consistently and unambiguously to customers in all locations, at all times)
- Be interoperable (to communicate and exchange data among DPR and selected external applications and databases)
- Authenticate users (to establish that the originator of a transmission is the organization or individual that it purports to be)
- Ensure privacy (to ensure that information that is currently required to be held private is not released)
- Have strong, flexible, security, both for data and network
- Allow consumers to dictate when and how they communicate with DPR regarding services (to keep pace with the public's requirements).



The DPR will be following the eGovernment policies, guidelines, and standards that are fully compliant State of California portal standards and DOIT guidelines. However, there will be technical standards not covered by these two sources. Retention of electronic records is a critical standard that is addressed in a separate section.

*The DPR will identify areas that would benefit from technical standards and then developing those standards.*

### Electronic Record Retention Standard

eGovernment efforts, and the implementation of websites to support them, will create public records that must be managed and retained according to the State records management and public record request laws. Four kinds of records are seen as areas of concern:

- ❑ Unstructured data (e.g., a pesticide product evaluation report; an enforcement letter)
- ❑ e-Mail (e.g., automatic e-mail notification that a DPR workstation completed its evaluation of a pesticide product)
- ❑ Enterprise database records (e.g., product label database)
- ❑ Website content (e.g., Web page of materials entering the pesticide registration evaluation process).

Technological changes will be ongoing and record retention policies should remain abreast of current technologies. This can be accomplished by institutionalizing a process for the ongoing revision of rules and guidelines, in accordance with the governance plan. This standard avoids loss of critical information, complies with California public record laws, and preserves the historical records that are DPR's long-term information assets.

*DPR will develop an electronic record retention standard.*

### Client Support

The help desk function is critical for the 24x7 operation that is characteristic of the eGovernment capability that DPR is intending to develop. Customers using electronic services will be filling out forms during non-business hours. Many will need help to understand what must be done.

The help desk includes telephone, e-mail, and chat room functions, and may require virtual connections to subject matter experts in DPR's program areas. Fast response is critical in developing and gaining DPR-wide acceptance of centralized help desk support.

The help desk should be a single integrated function, with a single point of contact (i.e. telephone number or Internet address). The help desk concept includes a problem resolution database and inventories of hardware and software (including all databases). Effective management of the help desk requires reliable metrics and reports.

DPR currently has a help desk capability for supporting Division of Administrative Services staff and Medical Toxicology Branch staff. Extending the help desk to cover eGovernment needs will require additional resources to develop and staff.

*The DPR will centralize and expand its help desk capability to cover its intended eGovernment capability across all DPR program areas.*

### Capacity Testing

Capacity testing involves testing new applications under realistic usage conditions. This is sometimes called load testing. Testing provides advanced indication of how an application and network will perform after installation.

A 24x7 availability demands the utmost in reliability. Applications that work fine on an isolated test bed can become unusable when they are in production and being used by hundreds of users at the same time. Performing realistic network capacity testing as early in the project as possible is a critical part of reducing reliability risks.

*DPR will incorporate network capacity testing into application development standards.*

### **Centralized Data Management**

Centralized data management involves defining and maintaining data in one place. DPR program areas would still own and define the data, but the definitions and metadata are located in one place. This place is a central data dictionary that is under rigorous configuration control and readable by anyone in DPR who needs it.

Data and data definition consistency across DPR is critical for interoperability and sharing of data, both within DPR and between business partners (e.g., California Agricultural Commissioners and the U.S. EPA). Good data management is based on widely accepted standards for database design and data access.

Central management provides a vehicle for this consistency. One common data dictionary for all of DPR is a critical component of centralized data management, providing the basis for interoperability. An important concept in centralized data management is that a specific business unit (e.g., the Pesticide Registration Branch) owns each data definition.

The centralized approach avoids the fragmentation and inconsistency that characterizes locally managed data. But, resources must be allocated to develop the common data definitions and dictionary.

*DPR will establish a centralized data dictionary.*

### **Data Warehouse**

Online transaction processing (OLTP) and online analysis processing (OLAP) tasks require very different kinds of processing and applications. OLTP is used for the everyday tasks of entering data into a production database. This type of task requires fast response time to maximize staff productivity.

OLAP works in conjunction with a data warehouse. It usually involves intensive data crunching tasks. Fast response time is not generally an issue. It is used to accelerate and improve decision-making.

Separating the two types of tasks implies developing a data warehouse that is separate from the day-to-day operational database. The data warehouse is generally read only for users and is updated automatically from the operational database (in effect, a snapshot is made of the operational database and placed in the data warehouse).

The DPR's California Pesticide Information Portal (CalPIP) project will provide online users access to a pesticide use data warehouse. It is expected to be put in production March 2002.

A data warehouse enables researchers and planners, both internal and external, to perform custom research and develop custom reports with little or no IT staff assistance. It avoids impacting the fast response time needed for day-to-day operations on a production database, such as the pesticide use report (PUR) database.

Data warehouses require significant planning and implementation resources to achieve DPR goals. Staff must be trained in the use of the data warehouse access tools.

*DPR will continue to develop data warehouses as a means of providing information to our employees, constituents, and regulated entities.*



### Authentication

Authentication is the unambiguous identification of a user of eGovernment services. Currently, this consists of securely issuing user identifications and passwords. This is one of the portal component standards established by the Governor's Office. Digital signature is a more secure form of authentication, but standards have not yet been issued by the Governor's Office or by DOIT.

Authentication reduces the risk of unauthorized release of data. But, it requires resources to identify exactly what eGovernment services need authentication and what level of authentication is needed.

*DPR will comply with the authentication standards developed by the Governor's Office or by DOIT.*

### Centrally Managed IT Security

Security is the protection of data against accidental or malicious destruction, modification, or disclosure. Security is a shared responsibility because of interconnected networks and Internet access. It requires continual assessment of risk and adoption of security measures that are commensurate with the eGovernment security needs of DPR.

Security control impacts all of DPR's eGovernment capabilities. Security is a single policy domain, and should be

centrally managed to be more effectively administered, verified, and sustained. This will provide uniform authentication and access to all of DPR's eGovernment resources and avoid unnecessary resource support and inconsistent security policy enforcement.

*The DPR will develop a department wide security standard and identifying the level of compliance needed for each element of DPR's eGovernment capability.*

### Disaster Recovery

A disaster recovery plan consists of recovery plans and technology that insure the continued operation of critical business functions when productivity is threatened by unforeseen circumstances (earthquake, fire). It includes routine off-site backup as well as a procedure for activating necessary information systems in a new location.

A good disaster recovery plan identifies and establishes mitigation efforts for many resumption problems ahead of need, making participants more aware of potential problems, and ensuring the continuation of DPR operations. Developing such a plan will require significant effort and will need storage facilities to accommodate backup data.

*DPR will review its Y2K disaster recovery plan and modifying it to include current eGovernment needs.*

## 8. Implementation Plan

This chapter presents a timeframe for our eGovernment efforts. This timeframe is dependent entirely on available funding allocated to these efforts. Pursuant to Department of Finance directions (Budget Letters 01-23 and 01-27), the Department of Pesticide Regulation (DPR) currently is preparing Governor's Budget reduction plans in the amounts of 3, 5, and 10 percent for fiscal year 2002/03. Funding reductions will impact our eGovernment timeframes, and this impact could be material.

### A. Overview

The DPR's initial efforts will be along three fronts:

- ❑ The Information Technology Branch (ITB) already has initiated an infrastructure evaluation project that will strengthen our information technology infrastructure. Initial steps in this effort will consolidate server platforms, virtual local area networks, client support services, and selected application services. In addition, the ITB will develop plans and implement the architecture framework and requirements provided in this eGovernment strategic plan.
- ❑ The Chief Information Officer (CIO) will develop a charter for a project management office (PMO). The governing roles of this office will include a standard shared methodology for information technology project management, evaluation of project resource assumptions to validate business assumptions, project planning, project management, and project review and analysis. It is important that the PMO be in place for the DPR

to reach the Capability Maturity Model Level 2.<sup>1</sup>

- ❑ The Department of Pesticide Regulation (DPR) will continue enrolling executives, managers, and staff in project management courses in order to develop required capabilities.

In addition to these initial efforts, the CIO will prioritize and develop strategies to develop the required capabilities identified in Chapter 7. These capabilities should be in place for a successful eGovernment program. The CIO, in cooperation with the Director's Office and business process owners, will develop various policies and procedures that:

- ❑ Maintain a visible commitment to eGovernment
- ❑ Build our capabilities to implement eGovernment
- ❑ Sanction, launch, and sustain eGovernment initiatives
- ❑ Allocate resources to support eGovernment efforts.

The DPR's other initial efforts will be to develop detailed plans to implement selected "target" eGovernment initiatives. These detailed planning efforts will require that individual process owners, supported by DPR's CIO, develop detailed business cases, feasibility study reports (where necessary), risk assessments, and project management plans for those "target" initiatives selected for implementation. The business analysis and project proposals will be integrated with our information technology capital planning process and our annual budget process.

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<sup>1</sup> The Capability Maturity Model (CMM), managed by the Software Engineering Institute at Carnegie Mellon University, is a widely adopted set of guidelines for software process improvement and assessment

The DPR's long-term plans are to implement the eGovernment initiatives that are classified as either "pursue" or "permit." These also will require that we complete appropriate planning and approval tasks, and assign appropriate resources to initiate and deploy each initiative.

The DPR recognizes the need to improve business processes in order to simplify and integrate each process, and then enable these improved processes with technology and organizational enablers. DPR business process owners will prioritize the suggested improvements identified in our process evaluation report<sup>2</sup> and consider how each improvement will be directly supported by our eGovernment efforts.

## B. Timeframe

The graphic below presents a high-level schedule for our eGovernment efforts. Infrastructure development and integration is an on-going activity. Our schedule represents a commitment to continually invest in a sound foundation that supports Internet-based initiatives. We expect deployment of target eGovernment initiatives to begin this fiscal year and be completed by fiscal year 2003/04. We expect to begin our pursue and permit initiatives in later years, with each group taking approximately three years to implement.

Our efforts to improve business processes, our progress on building a sound technology infrastructure, and the availability of financial and personnel resources will be considered when determining priorities and time frames.

<b>High-Level Implementation Schedule</b>										
	FY 2001/02		FY 2002/03		FY 2003/04		FY 2004/05		FY 2005/06	
	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun	Jul - Dec	Jan - Jun
<b>Infra-structure</b>										
<b>PMO<sup>a</sup></b>										
<b>Training</b>										
<b>Required Capabilities</b>										
<b>Target Initiatives</b>										
<b>Pursue Initiatives</b>										
<b>Permit Initiatives</b>										

<sup>a</sup> Project Management Office

<sup>2</sup> NewPoint Group, Inc., *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates*, March 30, 2001.

## Appendix A

### eGovernment Initiatives

The initiatives identified in this appendix are grouped by five Department of Pesticide Regulation (DPR) business processes. Based upon a prioritization of potential initiatives, we include the following three types of initiatives in our short and long-term plans:

- ❑ **Target.** These initiatives are considered to be of greater benefit to those impacted than other initiatives (high criticality), while being relatively less risky (high feasibility) than other initiatives. These target initiatives are our short-term eGovernment initiatives. These short-term initiatives are either already planned for implementation or feasibly can be implemented by the end of fiscal year 2003/04.
- ❑ **Pursue.** These initiatives are considered to be of greater benefit to those impacted than other initiatives (high criticality), while being relatively more risky (low feasibility) than other initiatives. These are considered acceptable and worth pursuing because of their perceived high value. Although considered more risky, our strategy is to show that our eGovernment approach can meet the needs of complex as well as simple applications. These long-term initiatives may be achieved by the end of fiscal year 2003/04.
- ❑ **Permit.** These initiatives are not as essential to our business as other initiatives (low criticality), but are more easily deployed than other initiatives (high feasibility). These initiatives are not as important to our overall eGovernment strategy as the other initiatives, and will be considered only if available resources permit.

A few remaining eGovernment initiatives identified during our process improvement efforts, will be deferred. These initiatives are listed in this appendix as well, for information only. However, we do not consider these to be critical (low criticality) and believe they are complex, require manual intervention, or are not particularly feasible for some other reason (low feasibility). Including these initiatives in our eGovernment efforts would result in little gain to customers at substantial risk.

For each initiative, we provide a cross-reference code to our two-volume process improvement report in which we first described the eGovernment initiative. A sample is provided below.

#### eGovernment Initiative Code Example

LC 10 H

- (If present) Listed as the eighth initiative under "Other Candidates" for Licensing and Certification
- Listed in the process improvement report as the 10th eGovernment initiative for the licensing and certification business process
- Licensing and Certification business process

The initial alpha code for each initiative (two or three characters) represents one of the five DPR business processes evaluated during development of process improvements and eGovernment candidates:

- ❑ PR Pesticide registration
- ❑ LC Licensing and certification
- ❑ PE Permitting and enforcement
- ❑ PUR Pesticide use reporting
- ❑ MA Mill assessment.

The three to five character code following the business process identifier is the code used in the two-volume process improvement report, titled: *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates* (March 30, 2001).

Finally, several initiatives have a code ending in an alpha character (e.g., LC EG10H). These initiatives originally were provided in the two-volume process improvement report under the category of "Other Candidates" within each of the five business processes. Some of these initiatives could be considered a quick return (requiring less than 40 hours to implement).

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## **Pesticide Registration**

### **Target**

#### **1. Internet access to registration guidance and information (PREG3)**

Provide Internet access to materials that will help registrants through all aspects of registering products. The objective is to reduce the proportion of submissions that are returned to registrants because of deficiencies. Types of instructional materials are described under a separate process improvement initiative presented earlier in this section (number P10 for the pesticide registration process, in the report, titled: *Business Process Improvement Opportunities and eGovernment Candidates*, (March 30, 2001)). The DPR should, as much as possible, design these materials for access on the Web. For example, an interactive session could help a registrant determine the type of product that it plans to submit, and then provide the checklist of items that must be provided to the DPR for that type of submission. Also, the DPR already plans to include in the registration desk manual in-text links to the statute(s) and/or regulation(s) that enable the particular step or requirement being described.

#### **2. Internet access to current pesticide product license image (PREG8)**

Develop the capability to display the image of the current product license on DPR's external website. The objectives are to reduce resources unnecessarily spent printing, filing, retrieving, and refiling the hardcopy license, and ensure that the license provided to those requesting it is the correct license. The DPR has developed this capability, but it was put on hold for a variety of reasons. The DPR should develop the capability to automatically generate the PDF of the current license directly from the registrant/firm and licensing/renewal databases, and post this license to the Internet. Search capabilities then should be provided to retrieve the license that contains an individual product or the license for an individual registrant.

#### **3. Online pesticide product license renewal (PREG7)**

Allow registrants to renew product licenses on the Internet. The objective is to reduce the time between preparing renewal notices and issuing a renewed license. The DPR could initiate the renewal process by e-mailing a reminder to the registrant that it is time to renew their license, providing a direct hyperlink to DPR's online registration renewal site. The renewal site would allow registrants to log in, view and update contact information, view current products registered, indicate those products that are to be renewed and those that are not, calculate the total fee, and pay the fee. The DPR then could send a second e-mail to the registrant to confirm the transaction and payment amount, provide a transaction code, and deliver the license for printing locally.

Current renewal requirements are fairly simple, requiring only a returned, pre-printed form and payment from the registrant. Conditional registrations may be somewhat more complex because they do not fit this model.

**4. Electronic submission of product label submission – pilot (PREG1)**

Prove concept of submitting and processing a product label electronically. The objectives are to determine the feasibility of the concept and confirm requirements and options for preparing, delivering, reviewing, and archiving an electronic image of a product label. This includes evaluating software products that can be used to compare product labels electronically.

Approximately 50 percent of registration specialists' time (or approximately 15 PYs) is spent comparing product labels. Software has existed for years that can perform this same task, offering a solution to reduce workload and turnaround time for label reviews. Registrants themselves are evaluating and have used such software, and the DPR should identify the lessons learned from registrant experiences.

In addition to testing the concept of comparing labels electronically, this pilot also would include the following:

- ☐ Requesting confirmation from the registrant that the electronic label submitted is identical to the one attached to the product sold in California
- ☐ Providing a link from the product label database to the electronic product label, allowing end-users to search the database and then view a product's registered label
- ☐ Allowing keyword searches across actual product labels versus the subset of a label's content that is captured in the product label database.

**5. Enhanced Internet-based queries to identify restricted pesticide (PREG9D)**

Enhance Internet-based query capabilities to identify whether a product is a restricted pesticide and why it is restricted. This enhancement will require change in the database structure (each product would have a note explaining the reasons for restrictions).

**6. Internet access to pesticide product license application (PREG4)**

Allow registrants to complete and submit a product registration application form online. The objectives are to help registrants more quickly submit a complete and correct application form and reduce DPR resources needed to verify data, file and route hardcopies, populate DPR databases (where possible without required scientific data studies), and receive, record, route, and deposit payments. This recommendation does not include electronic submission of the scientific data studies (listed separately, above).

Potential capabilities of the online form could include:

- ☐ Ensure required fields are completed
- ☐ Ensure total percentages for source products and for ingredients each add up to 100 percent
- ☐ Allow lookup of currently registered active ingredients and chemical nomenclature

- ☐ Calculate specific gravity if density for a liquid product is provided on form
- ☐ Request only the information needed, based on the type of submission
- ☐ Populate existing DPR databases
- ☐ Accept letters of authorization electronically
- ☐ Accept payment.

One of many issues that must be addressed with an online application is ensuring that hardcopy data submitted with an electronic application are uniquely linked to that application (e.g., a unique identifying code assigned at time of online registration). DPR may need the data volume first. Staff cannot create the pesticide data index without the hardcopy, so it may not be useful to DPR to use an online form that populates appropriate databases. An online form would be useful to registrants.

#### **7. Extranet access to registration reports (PREG5)**

Provide secure Web access to pesticide registration reports. The objectives are to share information, reduce the turnaround to fulfill public record requests, and leverage findings and conclusions for future evaluations and assessments. These reports include:

- ☐ Product registration evaluation reports from all scientific disciplines
- ☐ Risk characterization documents, including all attachments
- ☐ Risk mitigation documents
- ☐ Public reports or dossier/monograph about pesticide evaluations (not currently prepared by the DPR) that interpret scientific studies completed by the DPR.

The DPR should allow an end-user to search these reports by keyword and other criteria (e.g., author's name), and automatically notify stakeholders that have told the DPR that they would like a copy of the report when published on the website. If this capability cannot be managed for public access, at a minimum it should be developed on DPR's Intranet for staff access. This suggestion of secure stakeholder access may result in full access to the general public.

### **Pursue**

#### **8. Electronic submission of pesticide product registration – pilot (PREG2)**

Prove concept of submitting and processing the entire registration submission. The objectives are to determine the feasibility of the concept and confirm requirements and options for electronically preparing, delivering, processing, evaluating, and archiving the application, product information, scientific data, product label, and fee. Electronic submissions can reduce:

- ☐ Registrant investments to support a paper-based process to create, print, scan, reprint, audit, format, compile, index, archive, and submit data studies
- ☐ DPR costs to open, store, transport, retrieve, review, find data, extract data, compile data, file, retrieve, store, and archive data studies
- ☐ DPR costs to review and compare product labels
- ☐ DPR costs to open, log, route, record, report, deposit, and reconcile payments



- ❑ DPR time needed to thoroughly evaluate and make a decision on a submission.

Consistent requirements for pesticide registration submissions are global needs, and international bodies are working to address these needs. Canada's Pest Management Regulatory Agency is the leading regulatory body in adopting electronic submissions, with four years of planning and nine pilot submissions to-date. It has developed and shared with the international community extensive documentation of this pilot. The DPR should leverage the knowledge and experience of Canada in order to better serve registrants, reduce the costs of developing the pilot, and ensure more international capability and consistency. DPR should participate in U.S. EPA's electronic submission workgroup to ensure that format standards are consistent.

The DPR should develop guiding principles for this pilot, which could include the following:

- ❑ Collaborate with registrants, DPR, and international entities
- ❑ Prove concept of operations and reduce risk of failure
- ❑ Gain efficiencies for registrant and DPR
- ❑ Allow users to determine solution
- ❑ Allow for a range of registrant capabilities
- ❑ Use open, flexible standards, and mainstream Internet technologies
- ❑ Provide a cost-effective solution
- ❑ Share pilot results.

The pilot should ensure that electronic data submitted are unalterable and secure. As has been demonstrated and allowed in Canada's PMRA, evaluators probably will want hard copies of scientific data rather than only being allowed to review the data from a computer screen.

## Permit

### 9. Statistics on incomplete registration applications posted on website (PREG9A)

Develop and post on DPR's website statistics on, and causes for, incomplete applications that are returned to registrants. The objectives are to help registrants identify common application deficiencies and to help DPR refine training and documentation materials.

### 10. More user-friendly reports in response to public record requests (PREG9E)

Provide more user-friendly reports in response to public record requests for data studies. When providing electronic copies in response to these requests, the DPR should consider providing the requestor with the tools to sort the electronic copies by requested fields (e.g., by test type). Also, one of the current pesticide data index reports that the DPR provides in response to public record requests should be modified to provide the following additional fields (if recorded in the pesticide data index):

- ❑ U.S. EPA-assigned master record identification number (MRID)
- ❑ Source of study
- ❑ Registrant's name
- ❑ Data owner.



#### 11. Internet access to registration databases (PREG6)

Provide Internet access to pesticide index and chemical information databases. The objective is to provide end-users valuable historical data that can be useful in preparing a submission, satisfy public record act requests, and research a chemical. The DPR already has documented the need to upgrade the database engine (Oracle), make structural improvements to these databases, and make them Internet accessible.

The two primary databases currently accessible on DPR's Intranet that should be provided on the Internet are:

- ❑ *Pesticide data index.* This index (aka "library of studies") contains a detailed index to approximately 162,000 studies contained in 55,000 volumes in support of product registrations. Among the many data elements captured in this database for each data study are the study's title, data owner, test type, chemical code, DPR's unique identifier, and U.S. EPA's unique identifier. It supports three business needs: (1) managing the physical storage and retrieval of the hardcopies, (2) summarizing what is in the study, and (3) satisfying public record act requests. The DPR should review data study titles to ensure that they do not reveal confidential product formulation.
- ❑ *Chemical information.* This database is used to collect regulatory information on chemical ingredients. It is extremely useful to DPR staff to identify the status of a chemical (e.g., registration status, regulatory information/reports, number of actively registered products containing the chemical). The potential exists to use this database to identify all reports prepared by DPR that are relevant to a chemical, and whether any DPR branch is doing something regarding the chemical (e.g., reevaluation, enforcement activities, policy letters).

#### Defer

No Defers.

### Licensing and Certification

#### Target

##### 1. Electronic submission of continuing education sponsorship application (LCEG2)

Allow users to complete and submit continuing education sponsorship requests online. The objectives are to reduce the time between preparing a CE sponsorship application and accrediting a course. Stakeholders have requested that the DPR provide an online CE sponsorship application. Sponsors could more quickly submit a complete and correct application form. Such a form would reduce DPR resources needed to file and route hardcopies, and populate the CE database.

One issue that must be addressed with an online CE sponsorship request form is ensuring that information submitted with the application is uniquely linked to that application (e.g., a unique identifying code assigned at time of online submission). The DPR also would need to create a standard for the course outline and course description (e.g., specify program and format).

## 2. Evaluation of Internet-based examination (LCEG4)

Evaluate whether to allow applicants to take licensing and certification examinations online. The objective is to determine the feasibility of online examination. Benefits of online examination include increased access to examinations and reduced time from notifying an applicant of an examination location to notifying an applicant of examination results.

If the DPR determines proctoring is not required, applicants could have 24/7 access to examinations online. Because the DPR could deploy software to score examinations automatically, applicants could receive results immediately online and DPR could issue a license or certificate faster.

Potential capabilities of online examinations include:

- ❑ Rotate a bank of examination questions
- ❑ Populate existing exam database
- ❑ Eliminate manual components of current examination process (e.g., manually sorting Scantron forms, feeding forms into machine, and compiling test results)
- ❑ Automatically score examinations
- ❑ Reduce examination time by automatically determining pass/fail based on the remaining number of questions
- ❑ Provide quick “profiling” of examination results by providing target areas for future study and guidance on any weaknesses. Profiling is currently a manual process that can take as long as one month to prepare per test. Profiling can be an effective tool to identify applicators gaps in knowledge.

An online examination would not require a change in the process of reviewing a license or certificate application.

If the DPR determines proctoring is required, the DPR may want to consider providing proctored online examinations at identified locations throughout the State (most likely using alternative proctoring methods identified in process improvement number P6 for the licensing and certification process, in the report titled: *Business Process Improvement Opportunities and eGovernment Candidates*, (March 30, 2001).

The DPR should evaluate State of California Personnel Board safeguards for protecting the integrity of examinations provided online for State civil service (e.g., warnings).

## 3. Evaluation of a 24-hour access phone number to validate license (LCEG10H)

Evaluate whether to use a 24-hour access number to identify whether a license or certificate is valid. The objective is to decrease the time required to determine whether a license or certificate is valid. The user could state the license or certificate number and the DPR could set up the voice system to respond with a valid through date. This interactive voice response system would allow licensees to use the phone to determine license status.

**4. Internet access to additional licensing and certification information (LCEG7)**

Provide Internet access to materials that will help stakeholders through all aspects of licensing and certification. The objectives are to reduce the proportion of applications and renewals that are returned because of deficiencies and decrease telephone call volume. Additional information online could include:

- ❑ *Single point of access* – a linkage to the following for each license type: (1) knowledge requirements, (2) examination contents, (3) study guides/materials, (4) related CE courses, and (5) other requirements. The DPR should maintain an updated list (with website locations) of study materials.
- ❑ *Graphical flow diagram* – a graphical flowchart identifying license/certificate requirements based on applicant needs.
- ❑ *Renewal information* – an easy to understand matrix of license fee and renewal requirements based on odd-even year and last name (A-L and M-Z) criteria.
- ❑ *Answers to frequently asked questions (FAQ)* – attempts to answer questions that new licensees often ask. This could include responses to questions on minimum application requirements, minimum knowledge expectations, and minimum cycle time requirements (as identified in the permit reform act). Accuracy of the information is greatly assisted by its frequent exposure to criticism by an interested, and occasionally well-informed, audience.
- ❑ *Online forum* – a forum with treaded discussions to keep license and certificate holders informed of updates to applications, forms, and requirements. It can include the latest news on the subject, a conferencing capability for questions and answers by participants, as well as files for downloading samples and other related material. The DPR could convey the potential environmental and human health benefits gained through an applicator's increased knowledge and competence. The DPR could emphasize that the licensing and certification program is the primary risk mitigation mechanism for the pesticide regulatory program. The DPR also could periodically identify program highlights.
- ❑ *E-mail notification* – automatic e-mail notification (though a "listserv" capability) providing new information or updates about relevant licensing and certification topics.
- ❑ *Online links* – relevant links to licensing and certification agencies and committees, if available, including the American Association of Pesticide Safety Educators, USDA Tri Agency, Certification & Training Assessment Group (CTAG), and the Agricultural Pest Control Advisory Committee (APCAC).

The DPR should provide key word search capabilities to online for licensing and certification information. Doing so could reduce telephone inquiries of staff and decrease customer service time (by providing staff faster access to information). Examples where information is not currently searchable include:

- ❑ The continuing education course schedule (only available by period)
- ❑ The list of valid licensees and certificate holders

- ❑ The list of examination results (only available by location, by application number)
- ❑ The list of enforcement letters (only available by date)
- ❑ The glossary of pesticide terms (English to Spanish).

#### **5. Online pesticide applicator license renewal (LCEG1)**

Allow license and certificate holders to renew licenses and certificates online. The objective is to reduce the time between preparing renewal applications and issuing a renewed license or certificate. One of the most important requirements of stakeholders is for DPR to issue a license or certificate in a timely manner.

The DPR could initiate the renewal process by e-mailing a reminder to the license or certificate holder that it is time to renew their license, providing a direct hyperlink to DPR's online license and certificate renewal site. The renewal site would allow a license or certificate holder to log in, view and update contact information, view current licenses and certificates held, indicate those licenses and certificates that are to be renewed and those that are not, calculate the total fee, and pay the fee. If required for that renewal, the form would require the applicant to enter continuing education course names, numbers, dates, and hours. The DPR could send a second e-mail to the license or certificate holder to confirm the transaction and payment amount, provide a transaction code, and deliver the license for printing locally. The DPR then would mail to the licensee a copy of the embossed license or certificate card.

Most current renewal requirements are fairly simple, requiring only a returned, pre-printed form and payment from the license and certificate holder. The DPR should eliminate the requirement for an apprentice or journeyman pilot to include a copy of a valid medical certificate card issued by the FAA with each renewal. Instead the DPR should require the apprentice or journeyman pilot to provide the current expiration date of the medical certificate card and swear to the validity of the information provided, just as the applicant now does with all other information provided on the renewal form.

The DPR should identify best practices and lessons learned from the State of California's registered nurse online license renewal pilot project. Recently, this pilot has processed a small number of renewals online, and is the first such online license renewal site that the State offers. The site requires a licensee to enter a user id number and password, payment information (i.e., credit card number and expiration date), and continuing education information.

#### **6. Internet access to study guides and materials (LCEG6)**

Improve stakeholder access to study guides and materials (including text books) needed for examinations. The objective is to reduce stakeholder inquiries regarding study guides and materials.

The DPR should clearly identify all study guides and materials recommended for each examination type on the website. The DPR should provide stakeholders the ability to download those free study guides and materials (10 study guides are offered at no charge). For the remaining study guides and materials, the DPR should provide a description and ordering information (including contact information, ordering instructions, fees, and, if available, a hyperlink to the associated website).

**7. Online pesticide applicator license application (LCEG3)**

Allow applicants to complete and submit a license and certificate application form online. The objectives are to reduce the time between preparing applications and issuing a license or certificate and reduce DPR resources needed to file and route hardcopies, populate DPR databases, and receive, record, route, and deposit payments. One of the most important requirements of stakeholders is for DPR to issue a license or certificate in a timely manner. Stakeholders have indicated an interest in an online license and certificate application.

The DPR's online license and certificate application site would allow an applicant to initially enter contact information, enter required license/certificate holder information, and pay fees. Individuals could identify an examination location preference and the DPR could respond by e-mail confirming the examination location.

Potential capabilities of the online form could include:

- ☐ Ensure required fields are completed
- ☐ Request only the information needed, based on the type of submission
- ☐ Respond promptly to applicants by e-mail noting application deficiencies
- ☐ Accept payment
- ☐ Populate existing DPR databases
- ☐ Route the form to appropriate licensing and certification staff for review and approval
- ☐ Automatically schedule examinations
- ☐ Automatically generate examination reminder notices
- ☐ Provide an e-mail notification when applicant passes examination (using link to exams database).

The DPR could send an e-mail to the applicant to confirm the transaction and payment amount, provide a transaction code, and deliver the license for printing locally. The DPR then would mail a copy of the embossed license or certificate card.

**Pursue**

**8. Bar coded licenses and certificates (LCEG9)**

Evaluate bar coding licenses and certificates for greater access to current licensing and certification information. The objective is to determine the feasibility of bar coding each license and certificate. Benefits include improved access to license and certificate holder information in the field. Enforcement staff suggests they cannot quickly assess information from a current licensee or certificate holder. The DPR could benefit from providing a bar code on each license or certificate so that enforcement staff could scan a license and identify current information. The DPR could link the following information to the bar code:

- ☐ Valid license or certificate identification number
- ☐ Valid license or certificate categories
- ☐ Renewal status
- ☐ Violation history.

## Permit

### 9. County Agricultural Commissioner extranet access to licensee information (LCEG10C)

Provide CACs with extranet access to more specific licensee information than is provided on DPR's website. The DPR also should provide CACs access to electronic versions of licensing and certification forms they use (e.g., DPR license applications submitted to CACs).

### 10. Intranet access to additional policy, procedure, and database information (LCEG8)

Provide Intranet access to materials that will help DPR provide stakeholders with improved customer service, including online access to improved listing of licensees and certificate holders. The objectives are to reduce the time required by staff to respond to customer inquiries and reduce ad hoc requests for information from other business processes.

DPR staff only has access to licensing and certification information via the Internet. Staff do not have Intranet access to any relevant databases, licensing statutes and regulations, procedures, weekly reports, or exam schedules.

Intranet information could include:

- ❑ *Access to databases* - read-only access to current licensing and certification Microsoft Access databases. As an example, mill assessment staff and audit branch staff should be provided access to dealer and broker mailing information. The DPR also should consider providing historical licensing and certification data (the DPR could determine the number of years). Audit staff has indicated they cannot determine the number of dealers and brokers licensed each year from 1995 to the present.

The DPR should solicit direct feedback from enforcement and registration staff on needed linkages to the licensing and certification databases and allow them appropriate access to the following:

- ❑ *User manual* - a completed users manual with policies and procedures to assist staff (currently in process).
- ❑ *Weekly report archives* - a location to post and archive the weekly reports currently prepared by licensing and certification staff. Weekly reports identify consistent problems and issues with licensing and certification. The DPR should archive these reports and make them searchable for quick reference.
- ❑ *Proctoring checklist* - a checklist of all tasks required to proctor examinations.

### 11. Internet access to pesticide applicator license database (LCEG10A)

Allow stakeholders to view a version of the current licensee and certificate holder database directly on the screen. The objective is to reduce access time to current license and certificate holder information. Currently, stakeholders download a PDF file that contains a list of all individual licensees and certificate holders for a given first letter of the last name or the first letter of a business' name.

## **Defer**

### **12. Evaluation of remote kiosks for examinations (LCEG5)**

Develop the capability to display the image of the current product license on DPR's external website. The objectives are to reduce resources unnecessarily spent printing, filing, retrieving, and refiling the hardcopy license, and ensure that the license provided to those requesting it is the correct license. The DPR has developed this capability, but it was put on hold for a variety of reasons. The DPR should develop the capability to automatically generate the PDF of the current license directly from the registrant/firm and licensing/renewal databases, and post this license to the Internet. Search capabilities then should be provided to retrieve the license that contains an individual product or the license for an individual registrant.

## **Permitting and Enforcement**

### **Target**

#### **1. Internet access to county training packages (PEEG10B)**

Provide Internet access to training packages.

#### **2. Key word search capabilities to procedural guidance manual (PEEG10D)**

Provide key word search capabilities to the procedural guidance manual.

#### **3. Electronic submission of activities summary forms (Report #5) (PEEG1)**

Allow CACs to submit regulatory activities summary reports electronically. The objectives are to reduce the time required for CAC's to prepare and submit data and reduce the time required by DPR to process the data. The DPR could eliminate duplicative data entry within the current process. Potential other capabilities include:

- ☐ Provide CACs easy completeness checks
- ☐ Automatically check data for outliers (using previous CAC data) and provide prompts to CAC if data are inconsistent
- ☐ Prepare draft and final summary reports automatically
- ☐ Populate mill assessment database directly

Link data directly to U.S. EPA reports of county-level regulatory activities summary data.

#### **4. Internet access to enforcement process (PEEG5)**

Provide Internet access to relevant enforcement documents and materials. The objectives are to reduce telephone inquiries and staff time. The DPR should provide the following:

- ☐ More recent copies of:
  - CAC administrative civil penalty report (latest is July 1, 1996 to June 30, 1997)
  - Residue in fresh produce report (latest is 1997)
  - Statewide pesticide regulatory activities summary report (latest is 1998/99)
- ☐ Negotiated work plans

- ❑ Effectiveness evaluations
- ❑ Compliance assessments
- ❑ Summary matrix of enforcement, compliance, and public protection options
- ❑ Query access to pesticide illness surveillance program (PISP) data.

#### 5. **Answers to frequently asked questions (PEEG6)**

Provide Internet access to answers that stakeholders often ask. The objectives are to reduce staff time responding to similar questions and provide consistent responses to stakeholders. Answers to these “frequently asked questions,” or FAQs, can provide up-to-date expert knowledge on any subject of common interest. Among the subjects for which FAQs should be developed are:

- ❑ Enforcement activities conducted by CACs
- ❑ Enforcement activities conducted by DPR
- ❑ Enforcement and compliance options and authorities (e.g., penalties, orders, actions, revocation/suspension).

### Permit

#### 6. **Extranet access (CACs) to notices of final decision (PEEG8)**

Provide CACs secure Internet access to notices of final decision (NOFDs). The objective is to provide full disclosure and information for CAC's to use in an administrative civil penalty case. The DPR should obtain NOFDs from CACs and post them on a secure website (i.e., extranet) for viewing and downloading by authorized CACs. The DPR should remove confidential information from NOFDs, as needed.

#### 7. **Internet access to pesticide residue data (PEEG9)**

Provide Internet access to pesticide residue data. The objective is to reduce telephone inquiries and staff time. Enforcement staff should complete their review of the query tool (known as the “residue application”). The DPR then should develop the capability to allow online query and report capabilities of pesticide residue data. The DPR also should generate and provide online summary reports of pesticide residues that are most frequently requested by stakeholders.

#### 8. **Improvement of online enforcement letters (PEEG4)**

Provide greater Internet access to, and search capability for, enforcement letters. The objective is to reduce resources required to distribute letters to stakeholders (primarily CACs and DPR staff). The DPR should develop a taxonomy (a classification or categorization) for organizing enforcement letters online, post online PDF versions of enforcement letters from the past five years, and provide key word searches of the letters. The DPR should provide the following capabilities:

- ❑ E-mail CACs and their staff new enforcement letters (with attachments) within one hour of the letter being signed by the DPR
- ❑ Allow stakeholders to “subscribe” to enforcement letter updates. The DPR would automatically notify (“listserv”) stakeholders by e-mail any new enforcement letter
- ❑ Provide CACs with a weekly or monthly recap of enforcement letters.



**Defer**

**9. Hand held devices for market surveillance (PEEG2)**

Use hand held electronic devices to record market surveillance program data in the field. The objectives are to reduce duplicative data entry and decrease the time from staff collecting a produce sample and the CDFA beginning laboratory analysis of the sample. The DPR's staff could enter market surveillance data directly into a hand held device (such as those used by rental car companies for rental car returns or by the U.S. Postal Service for recording a package delivery). Potential capabilities include:

- ☐ Eliminate hand written forms
- ☐ Transfer data electronically to the CDFA laboratory
- ☐ Reduce errors caused by CDFA staff interpreting hand written forms
- ☐ Reduce data entry time by downloading data to internal databases.

**10. Hand held devices for product compliance program (PEEG3)**

Use hand held electronic devices for the product compliance program. The objective is to reduce the time required to confirm current product registration. A hand held device (such as those used by rental car companies for rental car returns or by the U.S. Postal Service for recording a package delivery) could provide DPR staff with an easy way to enter product compliance data in the field. Potential outcomes include:

- ☐ Eliminate manual forms
- ☐ Access download of currently registered products
- ☐ Reduce data entry by downloading data to internal databases
- ☐ Provide future capability to scan a UBC label to determine if product is currently registered (long-term initiative and requires obtaining UBC lists from registrants).

The DPR would use this device for the federally funded portion of the program should it discontinue the state funded portion of the program.

**11. Online forum for administrative civil penalty cases (PEEG7)**

Provide CACs an online forum to share information on administrative civil penalty cases. The objective is to increase information available for CAC's to use in an administrative civil penalty case. The DPR should provide CACs with a forum for discussing and sharing CAC experiences on all aspects of the administrative civil penalty process (e.g., penalty levels, NOPAs, NOFDs, findings of fact). After joining a forum, a participant's messages are broadcast to everyone participating in that online forum (also known as chat rooms).

The DPR should provide a threaded e-mail discussion capability. This capability provides a running log of remarks and opinions about a subject. Users e-mail or submit their comments directly, and the application maintains them in order of originating message and replies to that message. Threaded discussions are used in chat rooms on the Internet, on online services, and in groupware products.

**12. Extranet access to enforcement case file (PEEG10C)**

Provide secure Internet access to case files.

## ***Pesticide User Reporting***

### **Target**

#### **1. Online means to notify DPR about errors in PUR data (PUREG4B)**

Provide a means for an end user to notify the DPR online about potential errors in PUR data. This interaction should include notifying the individual what change was made to the database. A process to support this interaction is suggested earlier as a process improvement.

#### **2. Browser-based access to PUR database (PUREG2)**

Provide a means for end users to query the PUR database locally, using the same tools as will be provided with the Internet-based pesticide resource directory. The objectives are to provide quicker response to database queries, reduce end-user training requirements, and reduce the 250 inquiries received each year for DPR to develop more complex queries. The DPR now provides the PUR data on a CD ROM in a flat file format, but does not provide any application that would allow a requestor to query the data locally.

The PUR database contains over 26 million records, making it impractical to conduct many types of queries from a remote site (e.g., using a dial-up connection to the DPR's database server). Downloading results of queries using only a modem could take minutes, if not hours.

When the DPR resolves how PUR data will be accessible on the Internet, a similar interface (i.e., browser based) should be built and supplied on the CD ROM to allow an end-user to query the data locally (either on a PC or on a server accessible through a local area network). Based on stakeholder input, the DPR will need to determine the most frequent type of queries and possible reports of interest, and develop the local application to allow these most frequent queries and reports.

### **Pursue**

#### **3. Internet access to product label database extracts (PUREG3)**

Provide a daily extract of the product label database on DPR's website for downloading by counties. The objective is to provide up-to-date product label, chemical codes, and commodity codes to validate PUR data entered by counties. This would include any new crop and rate of use tables created by the DPR for data validation on local applications, as suggested previously as a process improvement. The DPR should develop a policy to address adjuvants and surfactants on the Internet because these products often are a company trade secret.

**4. Online pesticide use reporting (PUREG1)**

Provide Web-enabled access to electronic filing of use report data. The objectives are to reduce the time required to place use data into the statewide PUR database, reduce county and DPR resources required to ensure use data are correct and complete, increase the number of use reports captured in the statewide PUR database, allow counties and the DPR to capture the actual crop treated as recorded on the use reports, and eliminate hardcopy error reports.

The DPR partnership with nine counties, and the previous recommendation to develop the business case for the a statewide permitting and use reporting system (number P12 for the pesticide use report process, in the report titled: *Business Process Improvement Opportunities and eGovernment Candidates*, (March 30, 2001), could address this recommended eGovernment initiative, should the system be Web-enabled. Such a system should provide the following benefits:

- ☐ Provide immediate data access to all stakeholders
- ☐ More data standardization through use of uniform menus and coding
- ☐ Real-time error checking that will allow the end-user to investigate and correct the error at the time of data entry
- ☐ Reduce the time to publish validated data.

The DPR should include in this effort extensive outreach efforts, as well as direct involvement of technical work groups in defining system specifications and functional requirements. These efforts are necessary to ensure development of an efficient state/county pesticide regulatory program that meets the Administration's eGovernment goals and proposed legislative requirements for eGovernment projects.

Web-enabling use reporting should consider a key process improvement presented earlier (number P1 for the pesticide use report process, in the report titled: *Business Process Improvement Opportunities and eGovernment Candidates*, (March 30, 2001) to maximize the number of required validation checks of PUR data within the application that originally captures the data. This process improvement is vital to reducing turnaround times and increasing pesticide use data quality, whether the application is web-enabled or not.

**Permit**

**5. Internet access to PUR documentation (PUREG4A)**

Provide Internet access to the PUR documentation that is suggested in a previous process improvement (number P4 for the pesticide use report process, in the report titled: *Business Process Improvement Opportunities and eGovernment Candidates*, (March 30, 2001). In doing so, the DP should take advantage of point and click tools to drill down on subjects of interest to the end-user.

**Defer**

**No Defers.**

## Mill Assessment

### Target

#### 1. Internet access to mill assessment guidance and information (MAEG2)

Provide Internet access to materials that will help registrants, dealers, and brokers through all aspects of completing the *Mill Assessment Quarterly Report* form. The objective is to reduce the number of forms returned to registrants, dealers, and brokers.

The DPR could provide the following on its website:

- ☐ Definition of mill
- ☐ On what sales the mill is assessed
- ☐ Mill rate
- ☐ Reason for payment
- ☐ Total mill amounts collected
- ☐ Audit process
- ☐ Contact numbers.

#### 2. Answers to frequently asked questions (MAEG3)

Provide online access to answers that stakeholders often ask. The objectives are to reduce the number of forms returned to registrants, dealers, and brokers because of deficiencies, reduce telephone calls to mill staff, and reduce staff time responding to requests. The DPR should reference the location of the FAQs on the mill assessment form.

The DPR should provide answers to the following frequently asked questions:

- ☐ What is the mill assessment?
- ☐ Who is required to pay the mill?
- ☐ Why must more than one registrant in some cases pay the mill on the same product?
- ☐ How do I complete the mill form?
- ☐ Which products must the registrant, dealer, or broker pay the mill on?
- ☐ How are Internet sales treated?
- ☐ How is "ag use only" defined?

### Pursue

#### 3. Electronic submission of Mill Assessment Quarterly Report (MAEG1)

Allow registrants, dealers, and brokers to submit a complete *Mill Assessment Quarterly Report* form online. The objective is to decrease the time required to submit a *Mill Assessment Quarterly Report* form and payment. Another goal is to make electronic filing, payment, and communication so simple, inexpensive, and trusted that the regulated community will prefer these to calling and mailing.

The user would log in with an identification number and password and would only have access to their own registered product information. For registrants, the site would list registered products and pre-specify gallons or pounds for each product. For dealers and brokers, the site would allow users to enter product sales information and units.

- ☐ Potential capabilities include the following:
- ☐ Automatically generate the mill forms and post them to a web-accessible site
- ☐ Ensure required fields are completed
- ☐ Provide methods for checking errors prior to submitting form
- ☐ Automatically compute required payments and total payment
- ☐ Allow electronic payment
- ☐ Confirm electronically (receipt).

The DPR could automatically populate existing mill assessment databases with data submitted by the registrant, dealer, or broker. The DPR then could automatically generate various follow-up letters. This new system would require a redesign of the current application and database to allow for the queries and updates.

## **Defer**

### **4. Internet access to pounds sold data (MAEG4)**

Provide Internet access and query capabilities to pounds sold data. The objectives are to provide end-users valuable historical data that can satisfy public records act requests and allow end-users to conduct research online. The DPR should provide query and report capabilities to the pounds sold data extracted from the mill assessment database. In making the determination whether to provide access, the DPR should weigh the additional service provided to the stakeholder with the potential increase in questions of mill staff. The DPR also must protect confidentiality of product data for products with three or fewer registrants, dealers, or brokers.

## Appendix B

# eGovernment Initiative Prioritization Methodology

Our prior process improvement efforts identified over 50 eGovernment candidates. The Department has limited resources with which to initiate and deploy eGovernment candidates and must choose which candidates to deploy first. Therefore, we determined the priority of these initiatives, and included the higher priority initiatives in this eGovernment strategic plan.

In this appendix, we briefly describe the approach to prioritizing initiatives that we utilized during several facilitated workshops with DPR managers and staff. To prioritize initiatives, workshop participants determined the following for each initiative:

- ❑ Strategic importance
- ❑ Level of difficulty in overcoming identified barriers.

**Exhibit B-1**, following this page, provides an illustration of this two-step process. The result of this effort is a numerical ranking of potential eGovernment initiatives.

In order to confirm priorities resulting from these facilitated workshops, the DPR executive team also prioritized the initial group of initiatives, using an alternative approach employed by the Department of General Services Enterprise Business Office. This approach is described in **Appendix C** of this strategic plan.

Results from both of these prioritization efforts are reflected in the eGovernment initiatives chosen for inclusion in our strategic plan. These initiatives are identified in **Chapter 6** of this strategic plan.

## A. Strategic Importance

The first of two major prioritization steps involves rating as high, medium, or low each initiative on the following five criteria:

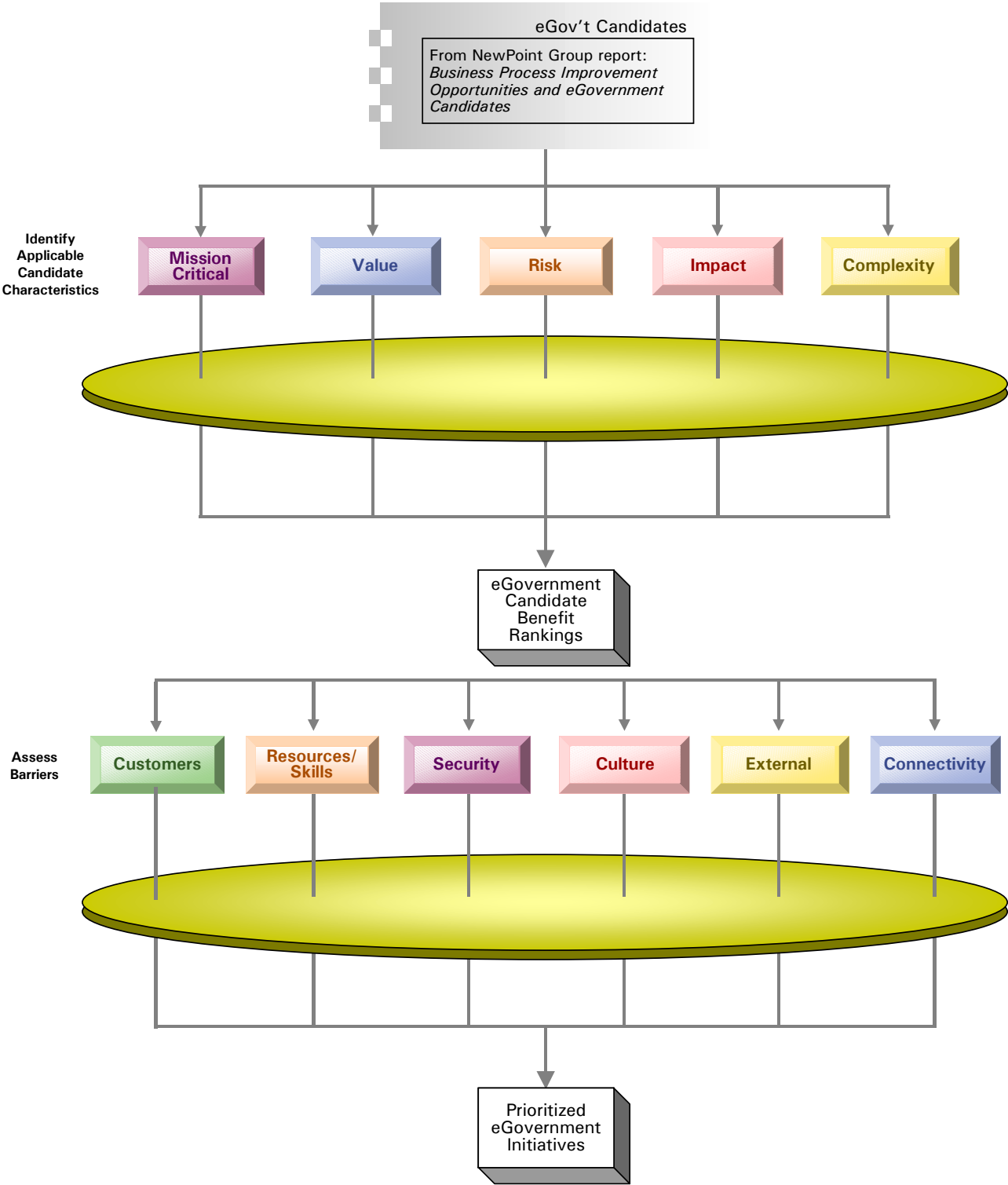
- ❑ Mission critical
- ❑ Value
- ❑ Risk
- ❑ Impact
- ❑ Complexity.

**Exhibit B-2**, following Exhibit B-1, provides definitions for each criterion. Using a pre-designed form, each participant recorded his or her criteria rating (high, medium, or low) of each initiative. During the assessment, a participant could change his or her ratings. For example, an initiative might be considered to have a low *Value* and a high *Impact*. However, because the number of people affected is significant, which is why *Impact* was rated high, a participant may re-rate *Risk* to high.

In addition to identifying the high-medium-low rating of each initiative, workshop participants also determined the relative weighting for each of the five criteria. The purpose of weighting each criterion is to determine its relative importance when determining overall strategic ranking of the eGovernment initiatives. The resulting average weightings from all participants are as follows:

❑ Mission critical	22%
❑ Value	25%
❑ Risk	16%
❑ Impact	21%
❑ Complexity	16%
Total	100%

Exhibit B-1. Prioritizing eGovernment Candidates





## Exhibit B-2. Brief Definition of Assessment Criteria

<b>Mission Critical</b>	<ul style="list-style-type: none"> <li>❑ Initiative requiring special consideration to ensure public safety, public welfare, and continued organizational viability</li> <li>❑ Supports Governor’s eGovernment Executive Order</li> </ul>
<b>Value</b>	<ul style="list-style-type: none"> <li>❑ Estimated overall cost of the initiative and its acquisition, including acquisition, implementation, and life cycle costs</li> <li>❑ Degree to which the initiative is useful in solving a business need throughout its life-cycle</li> </ul>
<b>Risk</b>	<ul style="list-style-type: none"> <li>❑ Degree to which the initiative places the State in a position of jeopardy, such that the loss to the State may be measured in terms of significant financial, functional, or resources loss. Secondary characteristics are: <ul style="list-style-type: none"> <li>▪ Failure: Degree to which the investment in acquisition, implementation, and operations does not return proportionate value in solving a business need</li> <li>▪ Emerging product: Length of time that an initiative’s platform has been on the market to demonstrate and ensure its reliability and functionality</li> <li>▪ Initiative life cycle: Time period during which the initiative provides functional value toward solving a business need</li> <li>▪ Visibility: Degree the initiative may impact the public’s trust and confidence in the State’s ability to perform effectively.</li> </ul> </li> </ul>
<b>Impact</b>	<ul style="list-style-type: none"> <li>❑ Degree to which the initiative affects the internal and external environment, such as the number of organizations and people affected by the initiative’s implementation, and financial and non-financial resources consumed</li> </ul>
<b>Complexity</b>	<ul style="list-style-type: none"> <li>❑ Degree to which the initiative requires special skills and expertise, or level of resources during the acquisition process or implementation, and during the initiative’s life cycle. Secondary characteristics include: <ul style="list-style-type: none"> <li>▪ Duration: Elapsed time required to completely implement the initiative, in addition to the anticipated life cycle period (e.g., two years to implement and used for 10 years)</li> <li>▪ Resources: Amount of financial and human resource costs the initiative is expected to require during acquisition and its life cycle.</li> </ul> </li> </ul>

A simple example of how a rating worksheet might look for one participant ranking six eGovernment initiatives is provided at the bottom of this page.

The resulting “strategic” score for each initiative is based on the weighting for each of the five criteria and the rating (high, medium, or low) given for each criterion. The ratings are given the following numerical value for the five criteria:

	Mission Critical	
	Value Impact	Risk Complexity
<input type="checkbox"/> High	5	1
<input type="checkbox"/> Medium	3	3
<input type="checkbox"/> Low	1	5

For example, a rating of “high” for the mission critical criteria results in a numerical score of 1.1 (5 X 22%) for the mission critical criterion. The overall strategic benefit of an initiative is the sum of its rating on all five criteria.

## B. Level of Difficulty in Overcoming Identified Barriers

The second of two major prioritization steps involves two activities:

- ☐ Identify barriers to implementing eGovernment initiatives
- ☐ Rate the level of difficulty in overcoming each barrier.

In a series of separate workshops, DPR managers and staff identified potential barriers to successfully implementing eGovernment initiatives, as well as method of overcoming each barrier. The resulting barriers were consolidated and grouped by category. The 25 barriers identified are presented in Section D at the end of this chapter.

During the prioritization workshops, participants discussed and agreed on which of the 25 barriers were relevant to each eGovernment initiative. One or more of the 25 barriers could be relevant to an initiative. Any barrier could be relevant to more than one initiative.

Example of eGovernment Initiative Strategic Assessment							
Criteria	Weighting	eGovernment Initiative					
		1	2	3	4	5	6
Mission Critical	22%	H	M	H	M	M	L
Value	25%	L	M	L	L	H	L
Risk	16%	M	H	H	L	L	M
Impact	21%	L	L	M	L	L	M
Complexity	16%	M	L	L	H	H	L
Strategic Score	100%	2.52	2.58	2.94	2.08	3.08	2.38

After agreeing to the relevant barriers for each initiative, participants gave their individual ratings to these barriers. Each participant evaluated each barrier as to how difficult it would be to overcome for that eGovernment initiative, rating it as high, medium, or low. These ratings were defined as follows:

- ❑ High (assigned 1 point)
  - Very difficult to overcome
  - Requires intense, consistent level of effort
  - Requires continuous, high-level management attention
- ❑ Medium (assigned 3 points)
  - Difficult to overcome
  - Requires significant level of effort
  - Requires focused and continuous management attention
- ❑ Low (assigned 5 points)
  - Fairly easy to overcome
  - Requires effort
  - Does not require intense focused management attention.

The “barrier” score for each initiative is obtained by dividing the total of points assigned to all barriers for that initiative by the number of barriers for that initiative. For example, if three barriers were relevant to an initiative, and one was considered high, the other two mediums, the barrier value is 3.67 ( $[5 + 3 + 3]/3 = 3.67$ ).

A simple example of how a participant’s worksheet might look after rating six eGovernment initiatives and their barriers is provided in **Exhibit B-3**, on the following page. The number of barriers relevant to an initiative does not directly influence the barrier score. Rather, the difficulty overcoming the barriers identified for the initiative determines the barrier score.

### C. Final Priorities

The strategic scores calculated in the first step are combined with the barrier scores calculated in the second step. The resulting total score determines the priority of the initiative. The initiative with the highest score is ranked number 1, the initiative with the second highest score is ranked number 2, and so on.

**Example of Prioritized eGovernment Initiatives**

eGovernment Initiative	Criteria Score	Barrier Score	Priority Score	Ranking
Initiative 1	2.52	3.67	6.19	3
Initiative 2	2.58	4.00	6.58	2
Initiative 3	2.94	2.50	5.44	4
Initiative 4	2.08	2.60	4.68	6
Initiative 5	3.08	4.33	7.41	1
Initiative 6	2.38	3.00	5.38	5

An example of the total “priority” score and resulting rankings, using the same six sample initiatives used throughout this chapter, is provided in the adjacent graphic. Initiative number 5, with a total priority score of 7.41, is the highest ranked of the six initiatives.

**Exhibit B-3. Example of eGovernment Initiative Barrier Assessment**

eGovernment Initiative	Perceived Level of Difficulty		Barrier
Initiative 1	H	1	Barrier 1
	L	5	Barrier 2
	L	5	Barrier 3
Initiative 2	M	3	Barrier 4
	L	5	Barrier 5
Initiative 3	H	1	Barrier 1
	H	1	Barrier 3
	L	5	Barrier 4
	M	3	Barrier 6
Initiative 4	H	1	Barrier 1
	H	1	Barrier 3
	L	5	Barrier 4
	M	3	Barrier 6
	M	3	Barrier 7
Initiative 5	M	3	Barrier 2
	L	5	Barrier 7
	L	5	Barrier 8
Initiative 6	L	5	Barrier 2
	H	1	Barrier 4
	M	3	Barrier 8

eGovernment Initiative	Barrier Score
Initiative 1	3.67
Initiative 2	4.00
Initiative 3	2.50
Initiative 4	2.60
Initiative 5	4.33
Initiative 6	3.00

## D. Barriers to Implementing eGovernment Initiatives

As discussed earlier in this chapter, our methodology to prioritize eGovernment initiatives involves determining the following for each initiative:

- ❑ Strategic importance
- ❑ Level of difficulty in overcoming identified barriers.

The second item above involves two activities:

- ❑ Identify barriers to implementing eGovernment initiatives
- ❑ Rating the level of difficulty in overcoming each barrier.

In a series of workshops, DPR managers and staff identified potential barriers to successfully implementing eGovernment initiatives, as well as strategies for overcoming each barrier. The team consolidated the list of barriers and grouped them by category. The results are the 25 barriers presented below.

### Customers

1. Lack of stakeholder Internet access
2. Lack of demand for (or interest in) service

### Resources/Skills

3. Lack of funding (no funds, funding multi year projects in annual budget cycle)
4. Lack of staff resources (numbers, relevant skills)
5. Lack of adequate training
6. Lack of help desk support on a 24/7 basis for an “always on” e-service
7. Insufficient storage capacity (e.g., for electronic pesticide product labels)

### Security

8. Privacy concerns (not disclosing confidential, proprietary, and trade secret information)
9. Security risks (protecting against unauthorized access)
10. Authentication needs (e.g., attorneys desiring original signature on licensing cases)
11. Securing test site to prevent copying of license exam materials

### Culture

12. Current business processes (e.g., physically matching an electronic application/renewal with required hardcopies; proctors required at license exam, which limits online examination; approximately 100 suggested process improvements identified in *Virtual Service Delivery Environment: Business Process Improvement Opportunities and eGovernment Candidates report*)
13. Resistance to change
14. Lack of content management process (organize, publish, subscribe)
15. Lack of formal website management and design process
16. Conflicting policies (e.g., policies stated in older enforcement letters prevent publishing them on website)
17. Unsure ergonomics (e.g., to review electronic pesticide product submissions)
18. Unclear requirements (e.g., from stakeholders, for enforcement process)

### External

19. Insufficient stakeholder capabilities (e.g., to produce an electronic product label, to read bar coded licenses)
20. Legal issues (e.g., complying with due process requirements and

preventing ex-parte communication; no requirements that County Agricultural Commissioners provide notices of final decisions to the DPR, except in cases when there is an appeal to the DPR Director)

21. Regulations (e.g., information for pesticide products with three or less owners cannot be disclosed)
22. "Spend it or lose it" mentality for budget, reducing incentives to reduce costs

### **Connectivity**

23. Data exchange (e.g., getting data from website into legacy systems; data quality and interoperability of DPR back office applications and databases; and

access to validation data or business rules (e.g., PUR edits))

24. Inability to accept electronic payments
25. Lack of standards. Examples given:
  - No taxonomy for organizing unstructured data (such as evaluation reports, product registration submissions), but absolutely needed for content management
  - No information technology standards
  - No data standards
  - No study guide design/layout/grouping standards
  - International standards that do not meet DPR needs.

## Appendix C

### Business Process Prioritization Methodology

The Department of General Services (DGS) Enterprise Business Office, through its supplier, PricewaterhouseCoopers (PwC), conducted a four-month business process review of 20 state agencies. The purpose was to identify and prioritize government-to-business (G2B) processes for inclusion in the state's eBusiness Center portal ([www.ebizcenter.ca.gov/default.html](http://www.ebizcenter.ca.gov/default.html)).

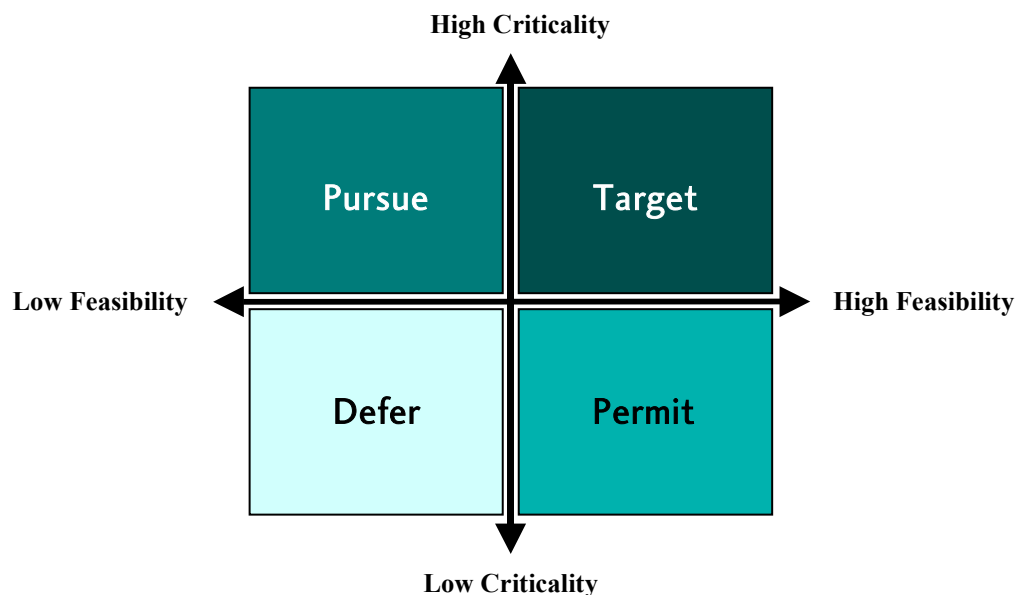
This appendix presents PwC's description of the analytical framework it used to prioritize the G2B business processes across the 20 participating agencies. The Department of Pesticide Regulation (DPR) executive team used the PwC approach in prioritizing the potential eGovernment initiatives. The results are presented in **Chapter 5** of this strategic plan.

The state has limited resources with which to build the portal, and must consider phasing its development. To do this, it must select among the large number of processes identified during

the business process review. PwC developed a criticality/feasibility framework to help the state prioritize the 178 processes identified. The framework is a qualitative tool that provides guidance in making difficult choices across many projects that could be valuable to the state's businesses. The framework supports the critical success factors by identifying processes that will help the state to be successful.

#### A. Criticality/Feasibility Analysis Framework

To prioritize processes identified as candidates for the portal project, PwC considered two primary criteria: criticality and feasibility. PwC examined how critical a given G2B process is to the success of the portal and then how feasible it is to include that process in the portal development. Based on this analysis, each falls within a quadrant in the matrix below.





The analysis of each process for criticality and feasibility is necessarily qualitative. The criteria for each are as follows:

**Criticality**, or how critical the process is to the success of the portal project, is a function of the potential benefits to business and the government agencies involved. Things to consider include:

- ❑ **Strategic Fit** – Does this process fit into the state's eGovernment strategy?
- ❑ **Market Conditions** – Are businesses demanding this service be available online? Are there significant transaction volumes?
- ❑ **Visibility** – Will including this process in the portal promote a positive image of the state to businesses and other constituents?
- ❑ **Efficiency** – Will including this process in the portal project result in cost and/or time savings for businesses or the state?

**Feasibility**, or how easily the process can be incorporated into the portal, is a function of the agency's Internet readiness and the degree of required manual intervention to complete the process. Things to consider include:

- ❑ **Operational Readiness** – Is the government agency ready, from a technology and capability standpoint, to undertake this project?
- ❑ **Degree of Required Manual Intervention** – To what degree does this process have significant manual intervention (e.g., investigations, inspections, or testing) that are not amenable to automation?
- ❑ **Development Cost** – Are the development costs relatively low or high?
- ❑ **Leveragability** – Can the application leverage an existing

application? If a new application must be developed, will other applications be able to leverage it?

Each process was assessed using this criticality/feasibility framework. Based on this assessment, each process was assigned to a quadrant of the matrix. The following definitions describe the quadrants.

**Target** – Processes that will reap significant benefits (high criticality) with relatively low risk (high feasibility) should be included in the portal project. The DGS Enterprise Business Office (EBO) should aid in the development of applications for these processes.

**Pursue** – Processes with high criticality but low feasibility are worth pursuing. The Enterprise Business Office should encourage state agencies to build the application with guidance from the portal project. High criticality implies significant benefits can be realized by including the process in the portal project, but low feasibility implies some risk. For the long-term strategy, the EBO must select some of these more challenging processes to show that the enterprise approach can meet the needs of complex, as well as, simple applications.

**Permit** – Some processes may be easily incorporated into the portal project (high feasibility) but are not essential for the success of the project (low criticality). High feasibility implies low risk, but low criticality implies little gain. The state – and individual agencies – should be cautious about choosing "permit" processes. From a business perspective, the state's limited resources are better spent tackling difficult tasks with significant potential benefits than easy fixes with minimal gain. Agencies with adequate resources may continue to develop web-enabled applications for these processes, but these applications are not as important to the success of the portal project.

**Defer** – Processes that are not critical to the success of the project (low criticality) and are complex, require manual intervention, or are not particularly feasible for some other reason (low feasibility) should be deferred. Including these processes in the portal process would result in little gain to customers at substantial risk.

### B. Business Lifecycle Phases

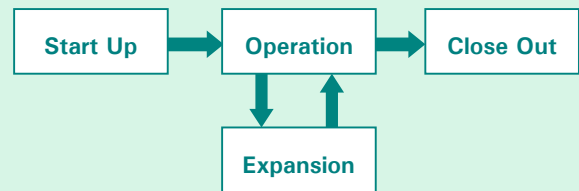
In its report to the DGS EBO,<sup>1</sup> PwC documents the prioritization approach described above, as well as results of a business process review of government-to-business transactions in 20 State of California agencies. The purpose of the review was to identify critical services provided to businesses. As a result of reviewing 178 processes within these 20 agencies, the report identifies a business lifecycle analytical framework to organize the business processes across these different agencies. The framework identified four major stages businesses may go through:

- ❑ Start up
- ❑ Operation
- ❑ Expansion
- ❑ Close out.

Within each stage, a business conducts a number of activities with the government. The report also documents the similarities found between the activities conducted by different industries at different stages. The report groups these similar processes into seven “lifecycle phases”:

- ❑ Initial set up
- ❑ Licensing
- ❑ Renewals
- ❑ Reporting

#### Lifecycle Stages



- ❑ Taxation
- ❑ Information/Customer service
- ❑ Claims and funding.

Definitions for each of these seven phases are presented in **Exhibit C-1**, following this page. These definitions are those provided by PwC in their business process review report to the DGS EBO.

As noted in the business process review report, aligning the business processes with lifecycle phases serves two purposes:

- ❑ The lifecycle phases will help the state understand how the DGS eBusiness Center portal can develop software applications to be shared by many departments. The goal of developing shared common applications is a best practice for developing large-scale information systems.
- ❑ The lifecycle phases will help the state to design an “intentions-based” user interface, where the customer does not need to know which agency provides a service, but rather needs only know what he/she “intends” to do on the eBusiness Center portal.

<sup>1</sup> PricewaterhouseCoopers, *Business Process Review*, March 2001.

## Exhibit C-1. Business Lifecycle Phase Definitions <sup>a</sup>

<b>Initial Set Up</b>	<p>Initial set up refers to the processes that a business must complete with the state to establish itself as a business that is allowed to operate in California. This phase includes four agencies – EDD, FTB, BOE and SOS – but does not include licensing or registration specific to a business industry. The largest volume of initial set up processes occurs in the start up stage. In most cases, agencies require a business to have completed the initial set up before moving to another lifecycle phase.</p> <p>Once established, a business may choose to change its form of organization (e.g., partnership to corporation) as part of the expansion stage. A business may also shut down. Processes similar to initial set up occur when a business shuts down. Thus, the initial set up phase is included in the close out stage as well.</p>
<b>Licensing</b>	<p>Licensing refers to application and payment for licenses, permits, certifications, and registrations with a specific agency. The level of complexity varies from the simplest registrations with no required approvals or payment to the most difficult licensing and permitting processes with payment, examinations, criminal background check, and inspections. “Licensing” refers to licenses, permits, certifications, and registrations that are industry or profession-specific. Licensing processes occur in the start up stage for initial licensing and in the expansion stage for additional licensing required because of business expansion, such as for a new location.</p>
<b>Renewals</b>	<p>Renewals refers to application and payment for renewals of licenses, permits, certifications, and registrations that are part of the licensing phase. The renewals phase also includes maintenance processes, such as change of address, and compliance or enforcement processes, such as payment of fines. The renewals phase occurs in the operation stage.</p>
<b>Reporting</b>	<p>Reporting refers to the provision of information to state agencies or the requesting of information from state agencies. Reporting is generally either time-based (e.g., annually, monthly) or event-driven (e.g., when a ticket has been issued or an inspection has occurred). Reporting may trigger a subsequent process or require a fee payment. The reporting phase occurs throughout the business lifecycle. In the start up and expansion stages, reports are generally initial reports to prove business viability. In the operation stage, reporting is generally dictated by regulation. In the close out stage, reporting is generally final reports to be able to shut down the business.</p>
<p><sup>a</sup> Source: PricewaterhouseCoopers, Business Process Review, March 2001.</p>	

**Exhibit C-1. (Continued)**

<b>Assessment</b>	Assessment (referred to as taxation in the PwC report) refers to processes where businesses file returns and make payments for state income, sales and use, and employment taxes as well as other premiums and assessments levied by state agencies. The assessment phase takes place once the business is established and ends with a final reconciliation after a business closes. When a business changes its form of organization (e.g., during expansion), it may be required to file returns and make payments for the business form that is closing. Additionally, the changes a business makes during expansion may change the business' tax status.
<b>Infor./Customer Service</b>	Information/customer service includes three levels of information requests: (1) static information on state agency regulation, policies, procedures, and other general information, (2) ad hoc data search and retrieval, and (3) ad hoc information requests and complaints that require analysis and specific answers or resolution. This category also includes distribution of forms and other inventory. The information/customer service phase occurs throughout the business lifecycle.
<b>Claims and Funding</b>	The claims and funding phase refers to demands by a business against state or federal funds or demands by an individual against an employer's account, such as for unemployment and disability, or requests for grants or loans from the state by a business. The processes in the claims and funding phase include processing requests, payment, and exception/protests. Most claims and funding phase processes occur during the operation stage.

## Appendix D

### Glossary

#### A

**architecture**

design of a computer, software or network. Simply put, it is the way components fit together. **Computer architecture** sets the standard for all devices that connect to it and all the software that runs on it. It is based on the type of programs that will run (business, scientific) and the number of them that run concurrently. Software architecture is the design of application or system software that incorporates protocols and interfaces for interacting with other programs and for future flexibility and expandability. A self-contained, stand-alone program would have program logic, but not software architecture. **Network architecture** is the design of a communications system, which includes the hardware, software, access methods and protocols used. It also defines the method of control; for example, whether computers can act independently or are controlled by other computers monitoring the network.

**authentication**

the ability to establish that the originator of a transmission is the organization or individual that it purports to be.

#### B

**benchmarking**

a method of measuring processes against those of recognized leaders. It helps establish priorities and targets leading to process improvement. It is undertaken by identifying processes to benchmark and their key characteristics, determining who to benchmark, collecting and analyzing data from direct contact, surveys, interviews, technical journals, and advertisements, determining the “best of class” from each benchmark item identified, and evaluating the process in terms of the benchmarks set and the improvement goals. For eGovernment, benchmarking includes a detailed analysis of an electronic reporting program to determine whether it can be used in whole or in part in another state or agency.

**browser**

a software program used to locate and display information on an intranet, extranet, or the Internet. Browsers most often are used to access Web pages. Most browsers can display graphics, photographs, and text. Displaying multimedia information, such as sound and video, may require additional software called “plug-ins.”

**business driver**

external or internal influence that significantly impacts and/or sets direction for programs at an organization.

**business-to-business commerce (B2B)**

using electronic interactions to conduct business among enterprises, typically as a result of formal, contractual arrangements. B2B functions include sophisticated Web authorization and control (WAC) for delivery of sensitive price, contract, and content information for each partner, catalogs that provide custom views based on access control and parametric search for serious business buyers, and order entry functions such as standardized “ship to” locations, dynamic order recalculation and payment options.

**business-to-consumer commerce (B2C)**

using electronic interactions to conduct business with consumers. B2C may include formal relationships (e.g., customers with assets under care or with subscription services, or content) and ad hoc relationships (formed in real time to enable a new user to buy, sell, or access information).

**business process improvement**

a management approach to rethinking and redesigning business processes to achieve dramatic improvements in performance. Business process improvements are designed to achieve and sustain quantum leaps in performance by aligning and integrating an organization’s people, business processes, and technology with its strategic imperatives. Technology is an enabler of BPI, not a substitute for examining and re-engineering business processes. BPI does not use technology to automate existing tasks. Instead, BPI uses the latest advances in technology to assist in the re-engineered business.

**business process**

a group of related activities that provide value to the customer.

**business process re-engineering (BPR)**

fundamental analysis and radical redesign of business processes and management systems to achieve dramatic change or performance improvement. BPR uses objective, quantitative methods, and tools to analyze, redesign, and transform business processes, including their supporting organization structures, information systems, job responsibilities, and performance standards. “The fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service, and speed.” (Michael Hammer and James Champy, *Re-engineering the Corporation*)

## **C**

**change management**

the balanced management of the resources (human and technical) associated with a change initiative. It is about people leading the change effort and the people who are expected to implement the change. It is concerned with the organizational culture and context in which change can occur, and the management of the emotional connections essential for a successful transformation. Strategies involved in change management include education, training, and communications. Transformation from a traditional business to an e-business requires changes in management structures, processes, skills, and business language. Understanding e-business terminology is critical to exploiting the emerging business models and services, and to communicating and facilitating change.

**Cold Fusion**

an application development tool to write Web pages that interact with databases.

**confidentiality**

the assurance that no one is able to eavesdrop on the transaction in progress.

**constituents**

any party outside the state government that has an interest in the implementation of environmental information. Includes both submitters (e.g., registrants) and users (e.g., public interest groups) of environmental data, such as reporting entities—public and private—in the regulated community, public interest groups, and local and regional governments.

**content**

(1) **Transactions content** includes information in force at the time of the transaction (e.g., pesticide product license renewal fee), information about the customer at the time of the transaction (e.g., products registered by company at the time of license renewal), and business rules in effect at the time of the transaction (e.g., DPR charges late pesticide product license renewal fees after January 31). (2) **Enterprise content** includes structured data (e.g., the CalPIP data warehouse), unstructured data (e.g., pesticide product registration evaluation report), and process events (e.g., automatic e-mail message to registrant that DPR completed a workstation evaluation). (3) **Website content** includes text, graphics, and video.

**content management – eGovernment transaction**

processes to capture the information relevant to a customer transaction, as well as the context of the transaction.

**content management – enterprise**

processes to integrate digitized data of multiple types, in multiple formats, and from multiple sources so that users can access a cohesive set of relevant information about a topic. Content management allows users to easily create, share, retrieve, and use content. Functionality includes manual or automated processes to filter, format, index, store, share, version, and link content.

**content management – website**

processes to create, organize, deliver, and maintain non-transactional Web-site-oriented content that lets a customer learn about or make decisions regarding an enterprise's product or service.

**D****Data warehouse**

a very large database designed for fast processing of queries, projections, and data summaries, normally used by a large organization. It is batch updated and can contain enormous amounts of data. The data in a data warehouse is typically historical and static and also may contain numerous summaries. It is structured to support a variety of analyses, including elaborate queries on large amounts of data that can require extensive searching.

**digital certificate**

an "electronic ID" used as part of the digital signature process. The certificate contains the public encryption key and other identifying information, and is issued and maintained by a certificate authority.



**digital signature**

an electronic signature based on public-key encryption technology. A data block associated with a document or data file in such a way that the recipient, as well as the independent third party, can be assured that a specific individual created the document or file.

**domain name**

a unique identifier for an Internet site which consists of at least two (but sometimes more) parts separated by periods (e.g., <http://www.dep.state.pa.us>). Enterprises must register top-level domains with the Web Internet Registry and pay a yearly fee to maintain the registry.

**E**

**ebusiness (electronic business)**

the conduct of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners. The term refers to organizations that are converting their business processes to use the Internet to buy parts and supplies from other companies, to collaborate on selling opportunities, and to do joint research.

**ecommerce (electronic commerce)**

the buying and selling of goods and services, and the transfer of funds, utilizing communications technology (such as Web-based technologies). It refers to buying and selling goods and services and transacting business, usually involving the paperless exchange of business information via electronic data interchange (EDI), electronic mail (e-mail), electronic funds transfer (EFT), interactive voice response (IVR), interactive fax, electronic signatures, smart cards, and more. eCommerce can be business to business (B2B), business to consumer (B2C), Government to business (G2B), or Government to consumer (G2C).

**eforms**

a computer program version of a paper form. In addition to eliminating the cost of printing, storing, and distributing pre-printed forms, e-forms can be filled out faster because the programming associated with them can automatically format, calculate, look up, and validate information for the user. With electronic submission of completed forms, including the use of digital signatures, approval cycle times can be reduced and the cost of re-entering data can be eliminated.

**eGovernment**

the provision of enhanced access to government information, delivery of government services, and participation in the democratic process through secure, electronic technology designed to protect privacy. (Source: Executive Order D-17-00, Governor Gray Davis).

The ability of government to interact with employees, constituents, regulated entities, and other government entities may be in the form of obtaining information, filing applications, providing documents with a filing, or making payments. A goal is to provide services and information in a way that makes sense to customers, is easy to use (fewest mouse clicks), and is available any time and any place convenient to the customer.

**eGovernment strategic plan**

a written plan that answers the question, "What could or should we do to transform our organization to be customer-centric in service delivery?"

**eGovernment implementation plan**

a written plan that answers the question, "What will we do to transform our organization to be customer-centric in service delivery?"

**electronic data interchange (EDI)**

the electronic exchange of trading documents (e.g., invoices and orders) to enable e-commerce. This information is integrated with and flows into and out of the organizations' respective business management systems. Originally conducted only through value-added networks, EDI is gradually moving to the Internet.

**electronic signature**

a code or symbol that is the electronic equivalent of a written signature.

**extranet**

a website for existing customers rather than the general public. An extranet can provide access to paid research, case files, and internal databases, virtually any information that is private and not published for everyone. An extranet uses the public Internet as its transmission system, but requires passwords to gain access.

**F**

**firewall**

a hardware or software system designed to restrict access to network resources to designated users. Often used to separate Internet-accessible systems from internal systems.

**G**

**governance**

determination of who does what and how it gets decided as to who does what. Governance is an organized and participative way of insuring that the business units have a voice in the decisions about plans, policies, procedures and the long-term direction of the organization's information technology.

**H**

**I**

**Infrastructure (for information technology)**

the systems and network hardware and software that supports applications. Infrastructure consists of logical elements, physical elements (e.g., servers, hubs, routers, switches, cabling, desktop, laptop, and handheld devices), carrier services, protocols, client and server hardware platforms, operating systems, distributed computing services, and the supporting systems management functionality.

**integration**

the ability to make separate systems work together easily. This could refer to data integration (ensuring that information in multiple databases is compatible) or systems integration (ensuring that conflicts do not exist between multiple hardware systems).

**integrity**

the assurance that the information received is identical to the information that was sent.

**interface**

the program that translates the data that was once produced on paper forms into an electronic format. Interface programs fall into two broad categories, those that are application-based and those that are user-based. An interface is a recognized and definable crossover point between two systems.

**internet**

a worldwide system of computer networks — a network of networks — in which users at any one computer can, if they have permission, get information from any other computer (and sometimes talk directly to users at other computers). It was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. Government in 1969 and was intended to create a network that would allow users of a research computer at one university to be able to “talk to” research computers at other universities. Technically the Internet is defined by its use of a set of protocols called TCP/IP (Transmission Control Protocol/Internet Protocol). Two recent adaptations of Internet technology, the intranet and the extranet, also make use of the TCP/IP protocol. The most widely used part of the Internet is the World Wide Web (often abbreviated “WWW” or called “the web”).

**J**

**K**

**knowledge management (KM)**

a business process that formalizes management and leverage of a firm’s intellectual assets. Knowledge management is an enterprise discipline that promotes a collaborative and integrative approach to the creation, capture, organization, access, and use of information assets, including the tacit, uncaptured knowledge of people.

**L**

**legal and security criteria**

three concepts (authentication, report integrity, and nonrepudiation) used to evaluate how the enforceability of an existing regulatory reporting program will be affected by the implementation of an electronic reporting system.

**legal framework**

an integral part of the electronic reporting implementation strategy, developed by state program managers and legal staff, to identify and remove legal obstacles to electronic reporting and ensure the enforceability of electronic reporting techniques and procedures.

**M**

**metadata**

data that describes other data. Data dictionaries and repositories are examples of metadata. The meta tag that describes the content of a Web page is called metadata (meta tags give an HTML or Web page author the ability to control how their website is indexed by search engines and how and when it will “come up” on a user’s search). Metadata also may refer

to any file or database that holds information about another database's structure, attributes, processing, or changes.

## N

### **network**

a group of terminals, computers, and other equipment that uses communications channels to share data.

### **nonrepudiation**

the ability to prove to a neutral third party that the originator of the transaction intended to be bound by the substance of the electronic record in question. The intent to be bound, when coupled with the legal and security criteria of authentication and report integrity, establishes non-repudiation. Non-repudiation reduces a defendant's ability to disavow responsibility for submitting the record in question.

## O

### **one-stop**

an initiative to reduce the number of separate forms a third-party must submit.

## P

### **password**

a secret data item that is used to authenticate an entity. Passwords often are words or numbers that an individual is supposed to memorize. The system authenticates the person on the assumption that the password is known only by the person to whom it belongs.

### **personal identification number (PIN)**

unique number consisting of alphanumeric characters assigned by the report recipient to ensure the integrity and authentication of electronically submitted reports.

### **personalization**

using continually adjusted user profiles to match content or services to individuals. Personalization includes determining a user's interest based on his or her preferences or behavior, constructing business rules to select relevant content based on those preferences or behaviors, and presenting the content to the user in an integrated, cohesive format.

### **portal**

an Internet gateway that guides users to the unique services they need and provides the enterprise with the underlying business functions required to deliver eGovernment solutions. On the front end, the portal is an attractive entry point where user functions and content are well organized and easily accessible. On the back end, the portal represents a set of transaction capabilities that allow products and services to be delivered via the Internet.

### **privacy**

the assurance that information provided for a specific transaction will not be used by the recipient for purposes not authorized by the provider.

### **protocol**

a set of rules governing information flow in an electronic communication system.

## **Q**

## **R**

### **readiness**

the degree of preparedness to accomplish an endeavor. eGovernment readiness is the degree to which a government agency is prepared to provide its information and services through multiple channels, including the Internet, toward customer centricity. Digital society readiness is the degree to which a community is prepared to participate in the electronic economy.

### **report integrity**

the ability to show that the data received are the same data that were submitted and that the data have not been altered in transmission, storage, or retrieval. Report integrity has two components, ensuring the security of the transmission process and creating a permanent record of the transmission. Report integrity, authentication, and non-repudiation are the three basic legal and security criteria.

## **S**

### **security**

protection from intended and unintended breaches that would result in the loss or dissemination of data. Security includes the desired level of integrity, exclusiveness, and availability to protect data from loss, corruption, destruction, and unauthorized use.

### **server**

the entity in a networking relationship that provides service to other entities on the network. Server software generally resides on hosts with constant, well-known addresses so the clients (e.g., a personal computer) can reliably contact them. Servers provide information and perform other activities in response to client requests.

### **smart card**

a small plastic card similar in shape and size to a credit card, but that contains a silicon chip capable of storing data and performing computations. Often used to store and implement a private key for digital signatures. Provides an extra level of security because it requires the possession of a specific piece of property (something you have) in addition to a PIN or password (something you know).

## **T**

### **total cost of ownership (TCO)**

total direct and indirect costs to acquire, develop, implement, and maintain information technology services and solutions.

**U****V****validation**

the process of determining that compliance standards have been met by a particular document in an electronic transmission. Validation also is the process of determining that a password or other authentication method is acceptable.

**virtual service delivery environment**

a business process or function that can be initiated and completed by using an electronic medium (i.e., paper is not necessary to complete any part of the transaction).

**W****website**

a collection of files accessed through a Web address, covering a particular theme or subject, and managed by a particular person or organization. Its opening page is called a home page. A website resides on servers connected to the Web network and is able to format and send information requested by worldwide users 24 hours a day, seven days a week. Websites typically use the hypertext markup language (HTML) to format and present information and to provide navigational facilities that make it easy for the user to move within the site and around the Web. The extensible markup language (XML) may become the common language used to present information on a website.

**world wide web**

all of the resources and users on the Internet that are using the hypertext transfer protocol. The world wide web provides access to millions of pages of information. Web-browsing is done with a web-browser, and the appearance of a particular website may vary slightly depending on the browser that is used.

**X****XML**

extensible markup language describes the information on a website. It works by tagging individual pieces of data with information that describes just what the data means and how to interpret it. XML coding of a website allows different computer systems and companies share data with a low risk of misunderstanding.

**XML schema**

an agreement between businesses on how data should be expressed in XML. It defines three key attributes: dictionary, document, and workflow. Agreements on XML schema are quickly emerging and are fundamental to establishing what is communicated on the Web between business partners.

**Y****Z**